

INTERACTIVE SYSTEM

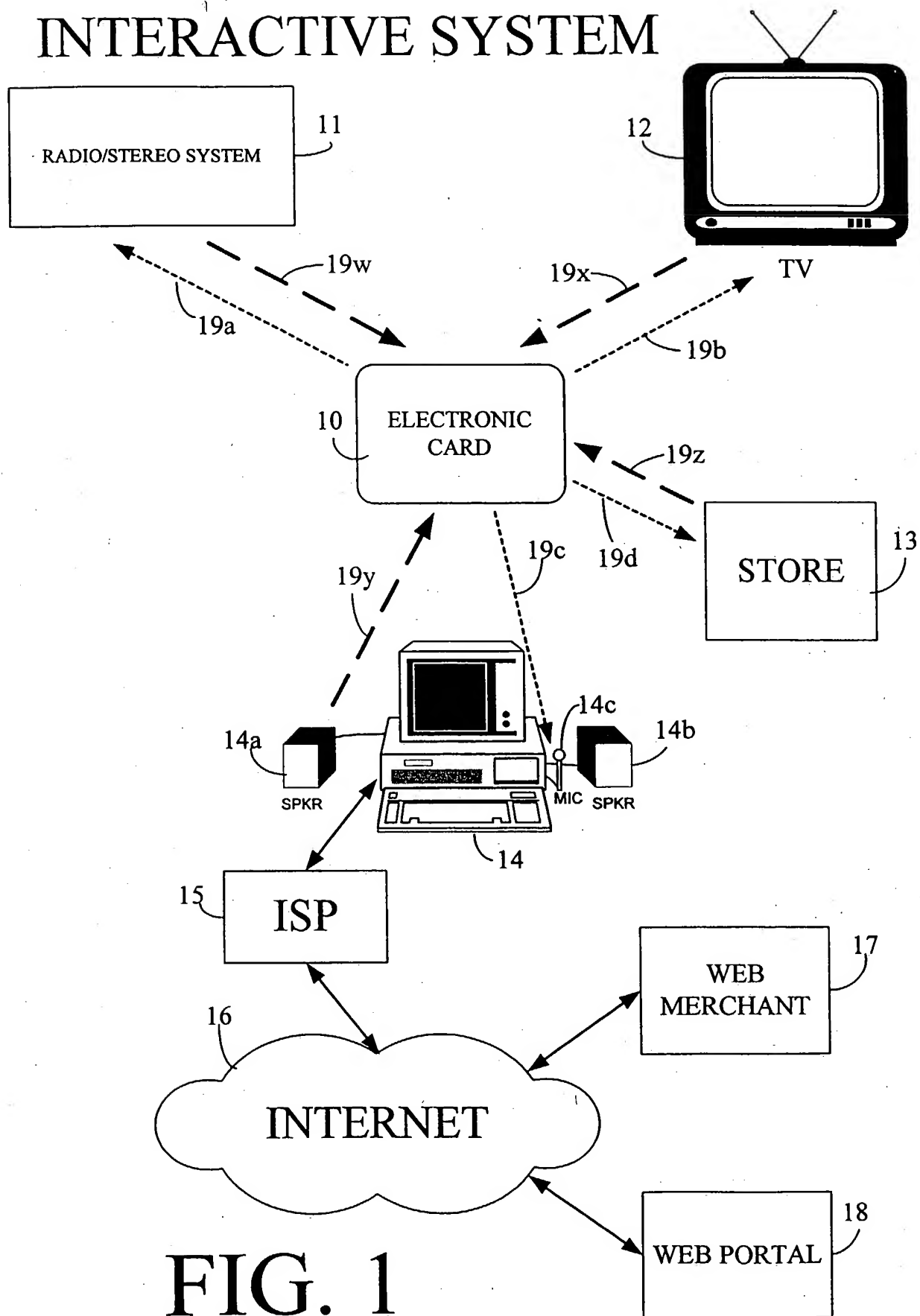


FIG. 1

ONE-WAY TX CARD

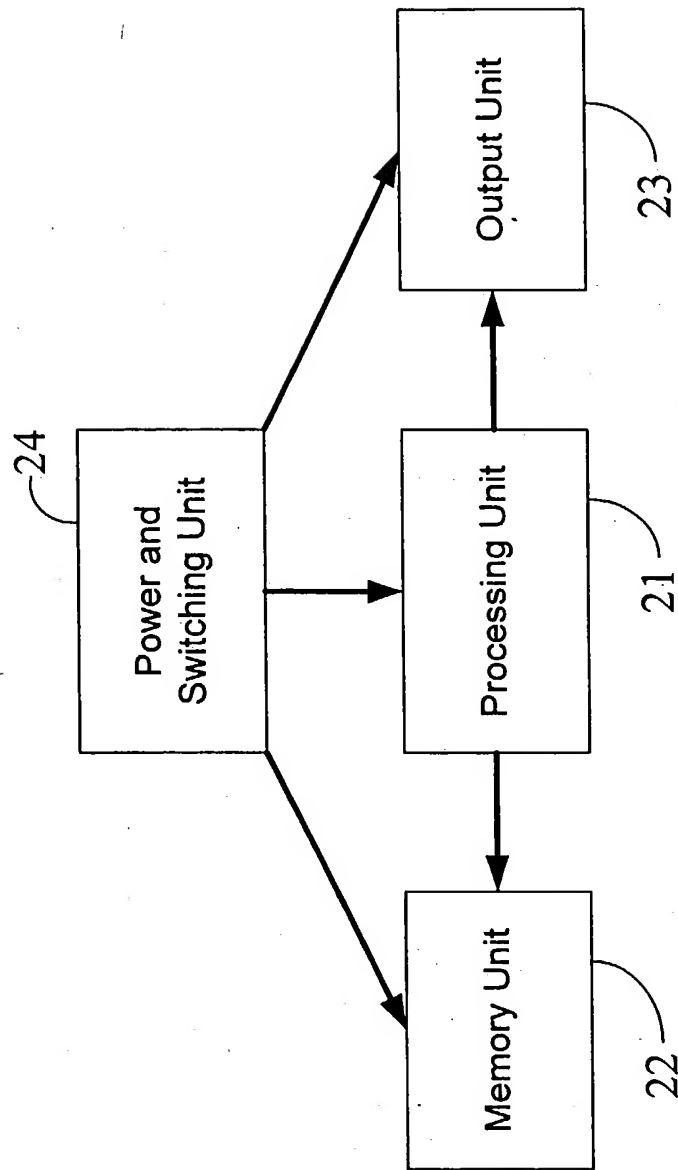


FIG. 2

TWO-WAY CARD

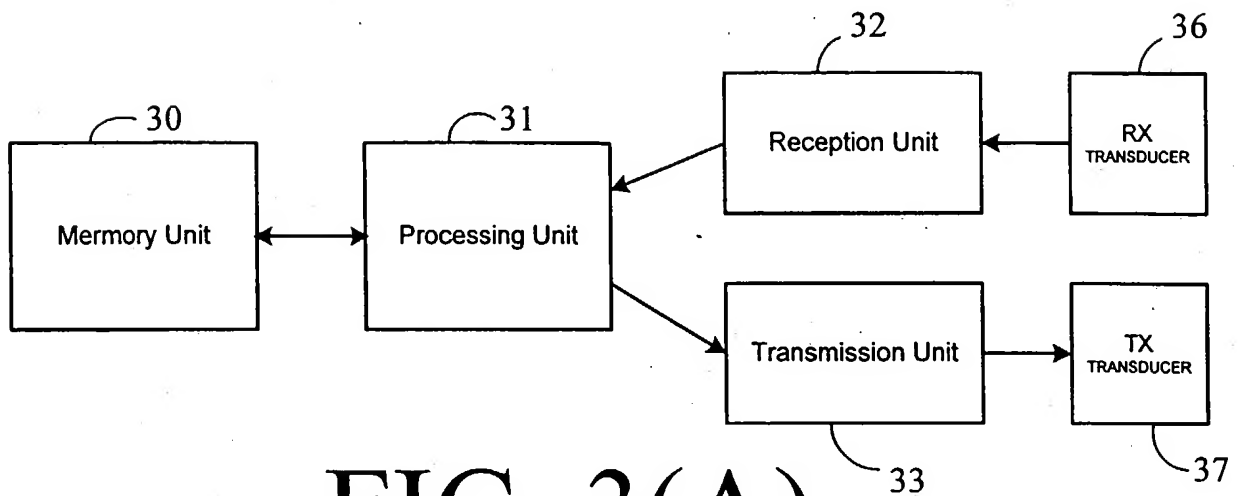


FIG. 3(A)

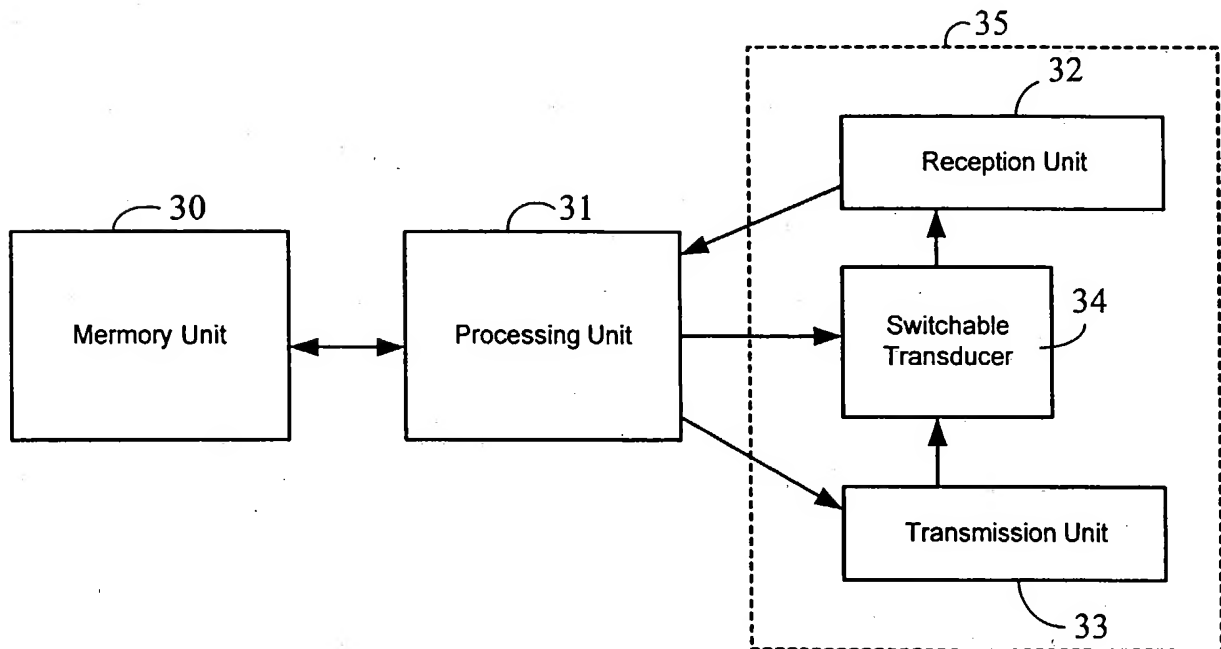


FIG. 3(B)

CARD RECEIVER

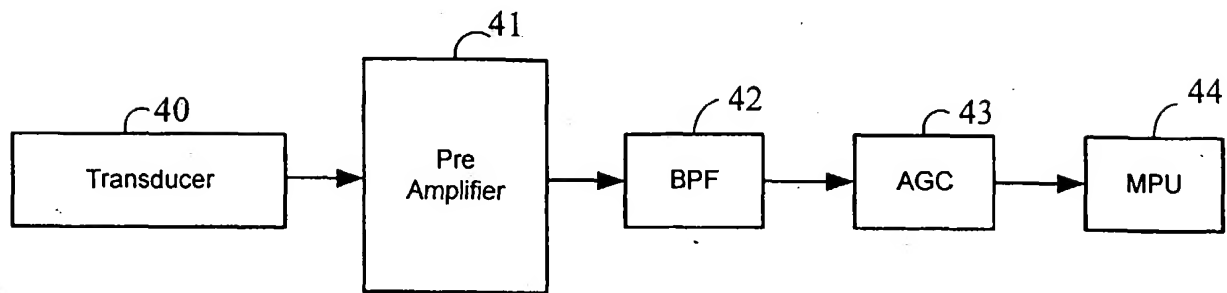


FIG. 4(A)

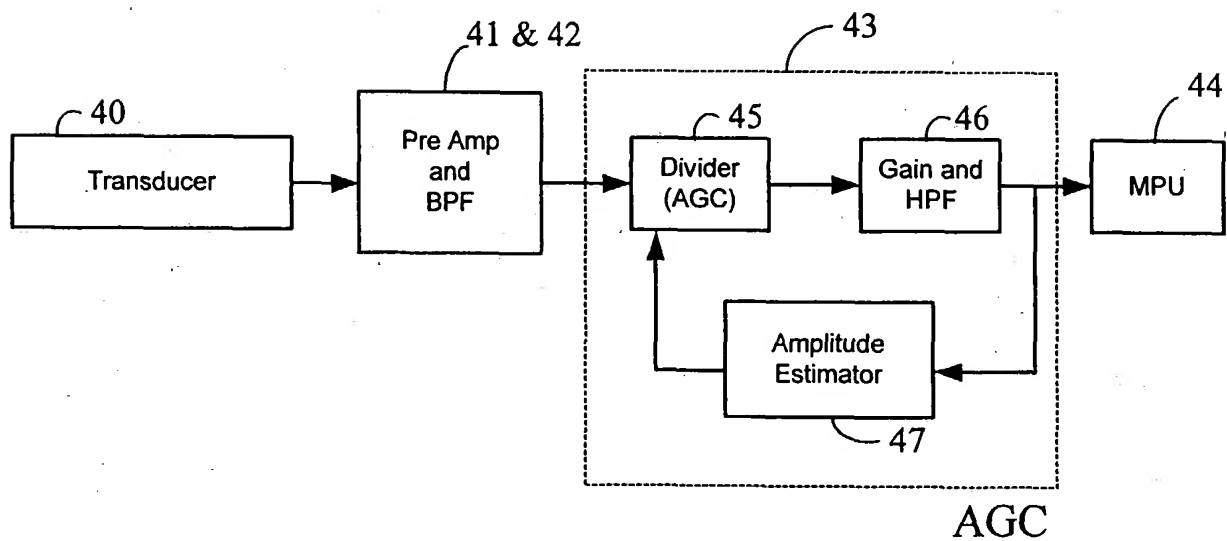


FIG. 4(B)

DATA FORMAT

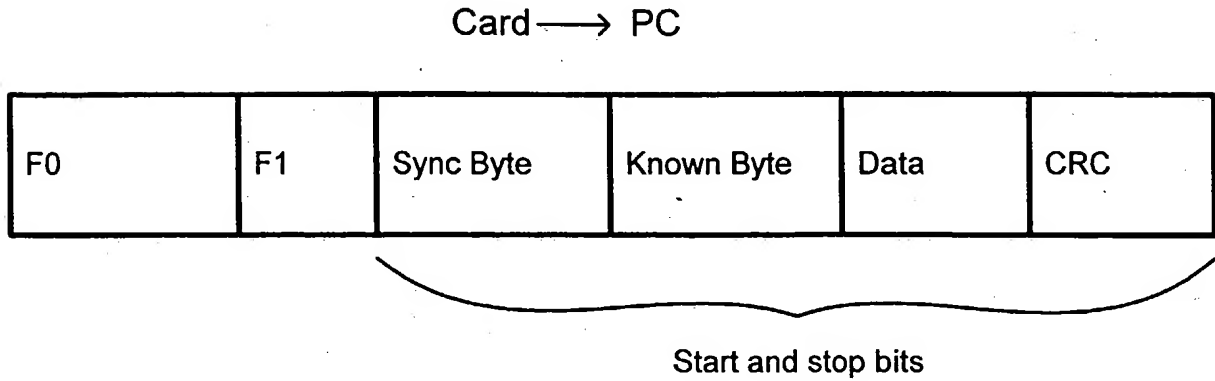


FIG. 5(A)

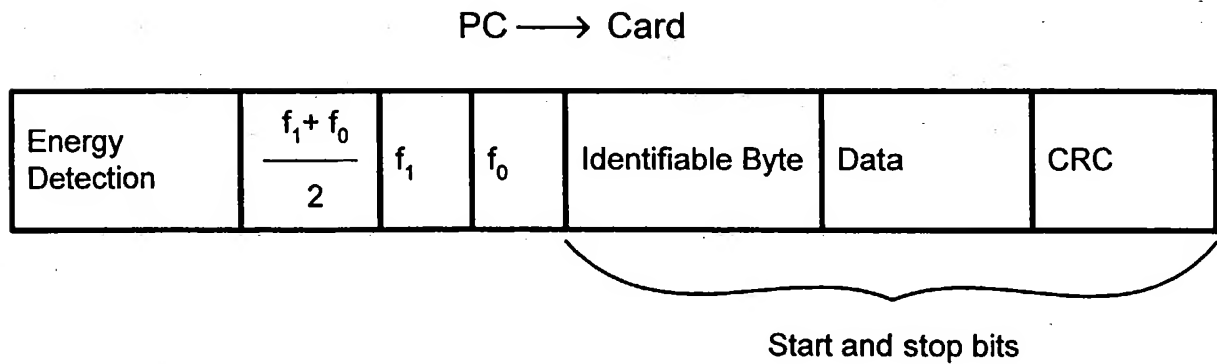


FIG 5(B)

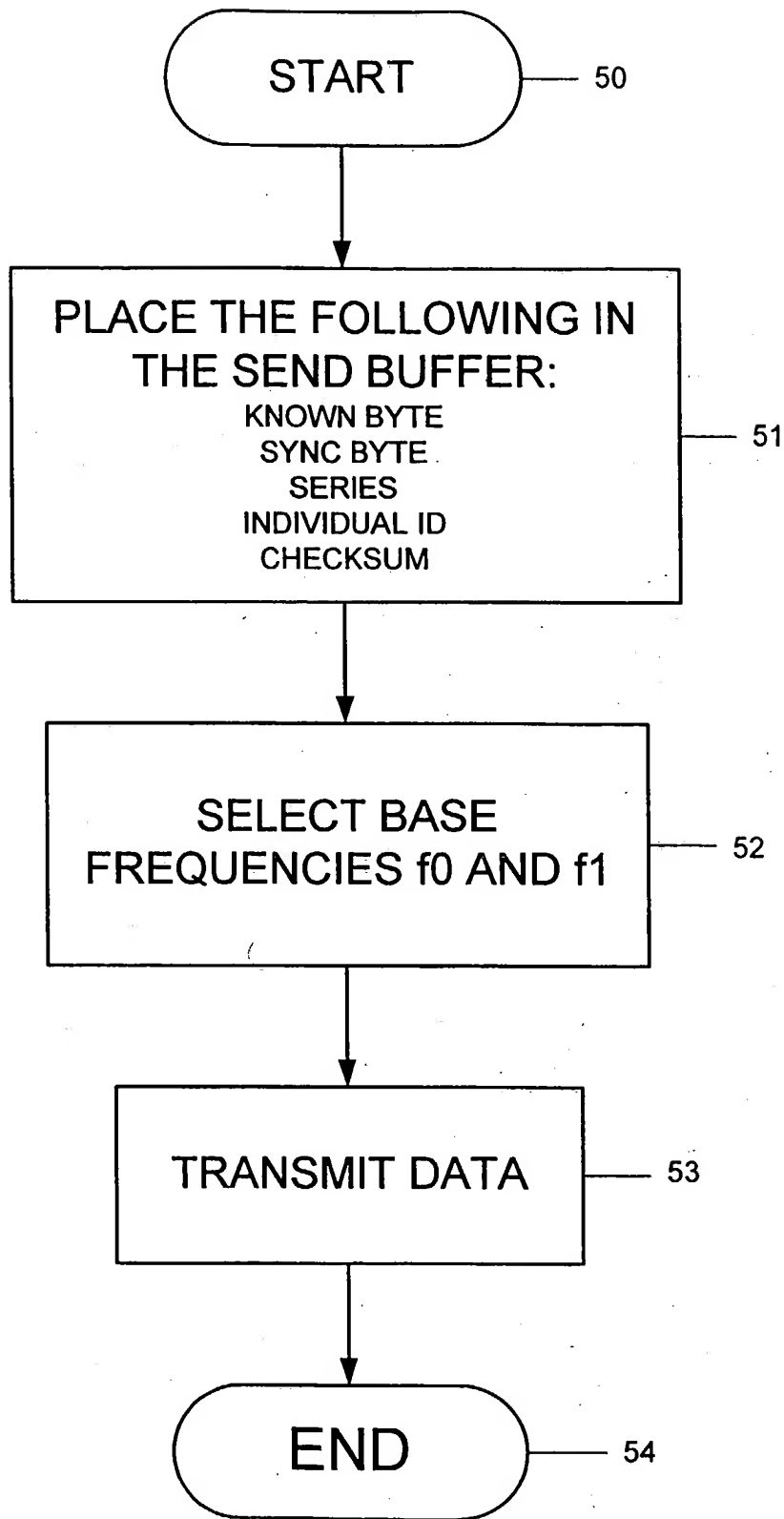


FIG 6(A)

CARD TRANSMISSION

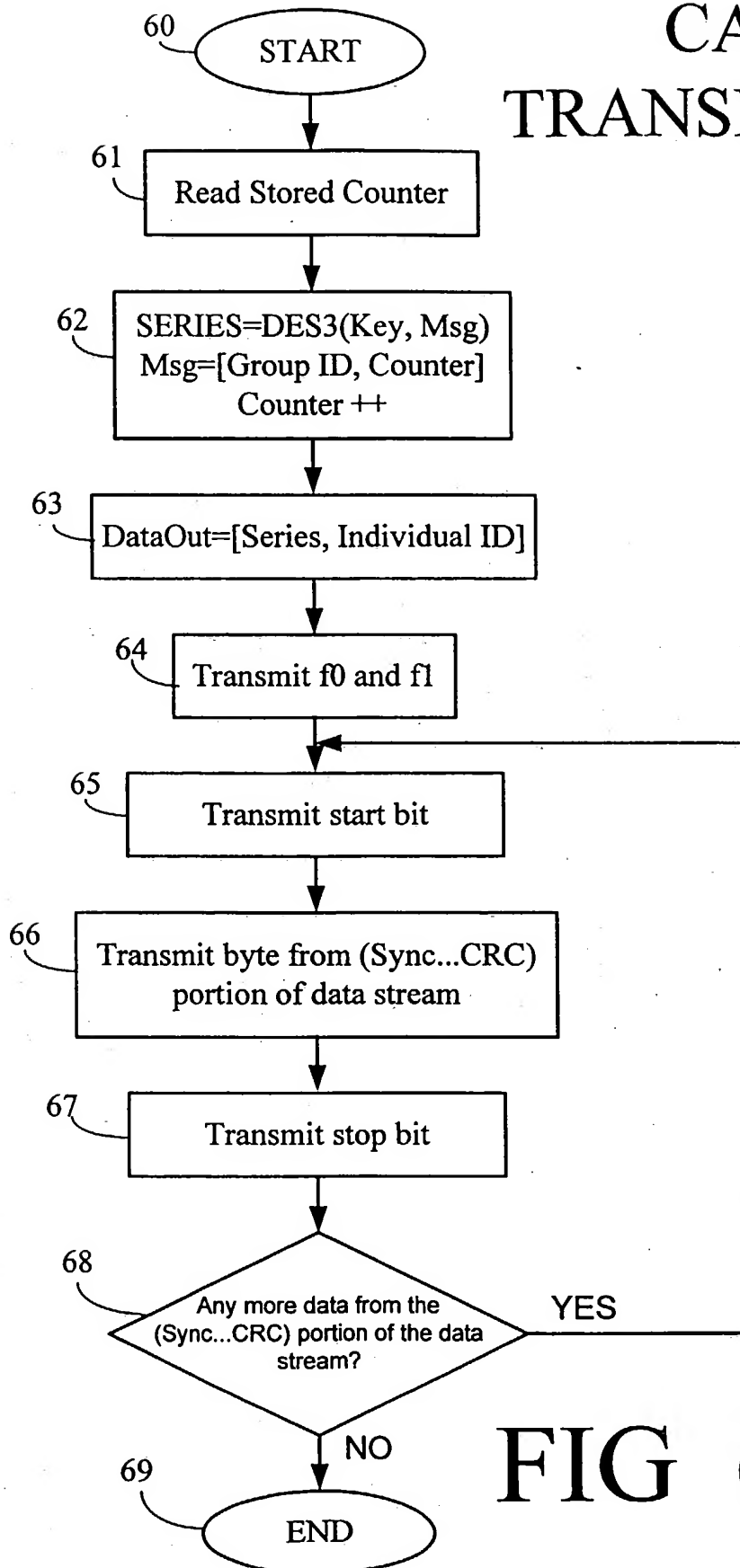


FIG 6(B)

MICROCONTROLLER

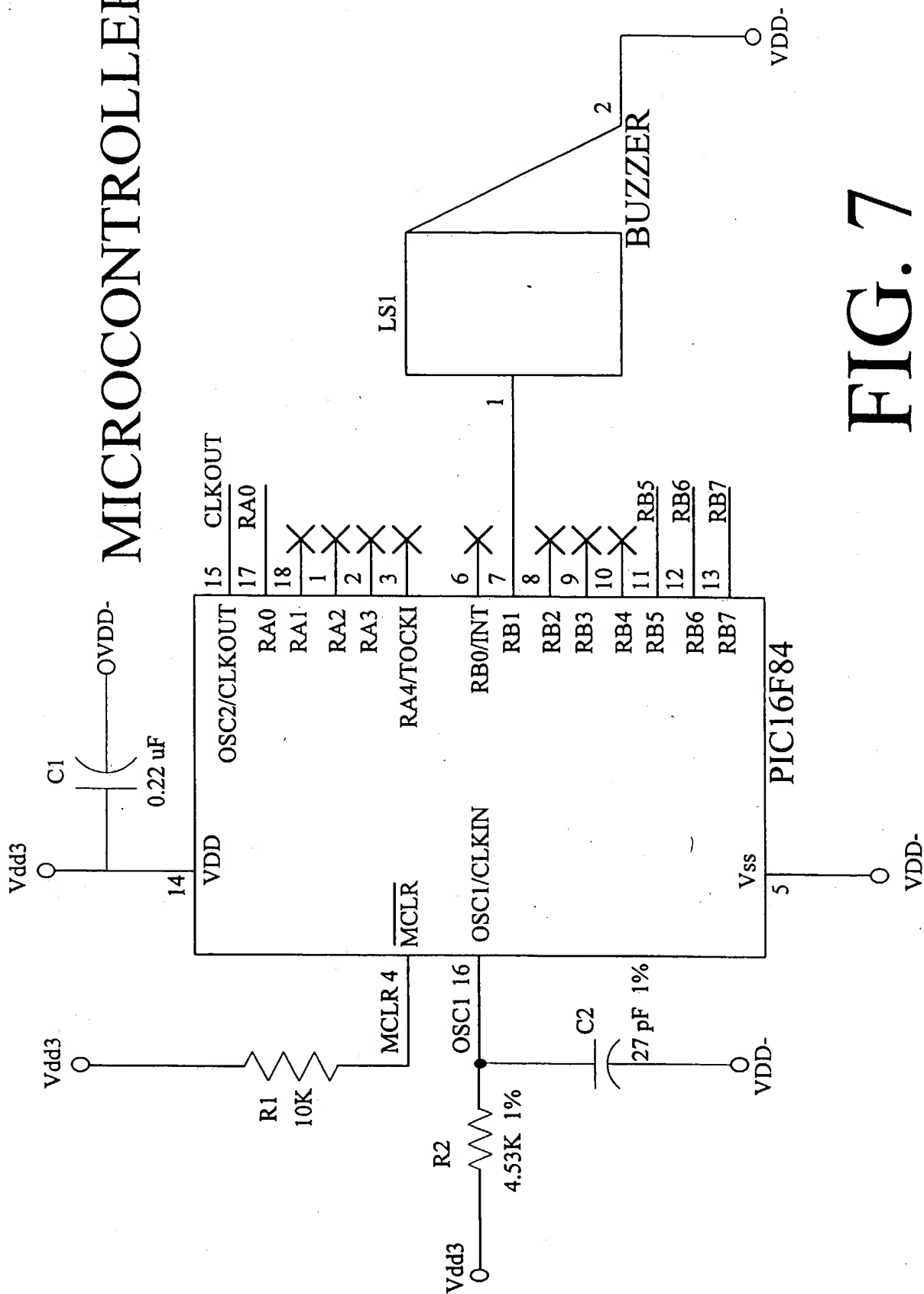


FIG. 7

VOLTAGE DOUBLER

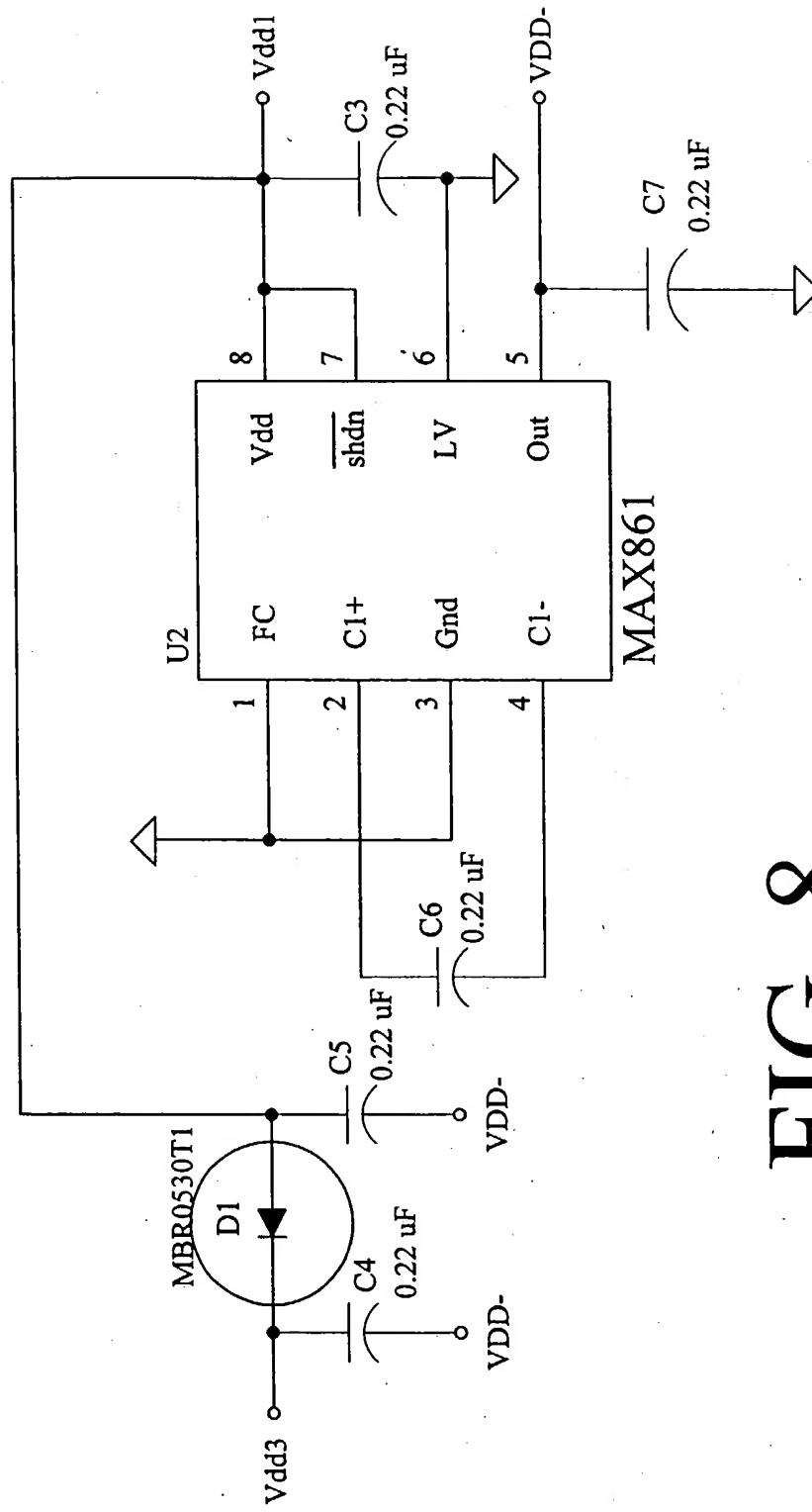


FIG. 8

POWER AND SWITCHING CIRCUIT

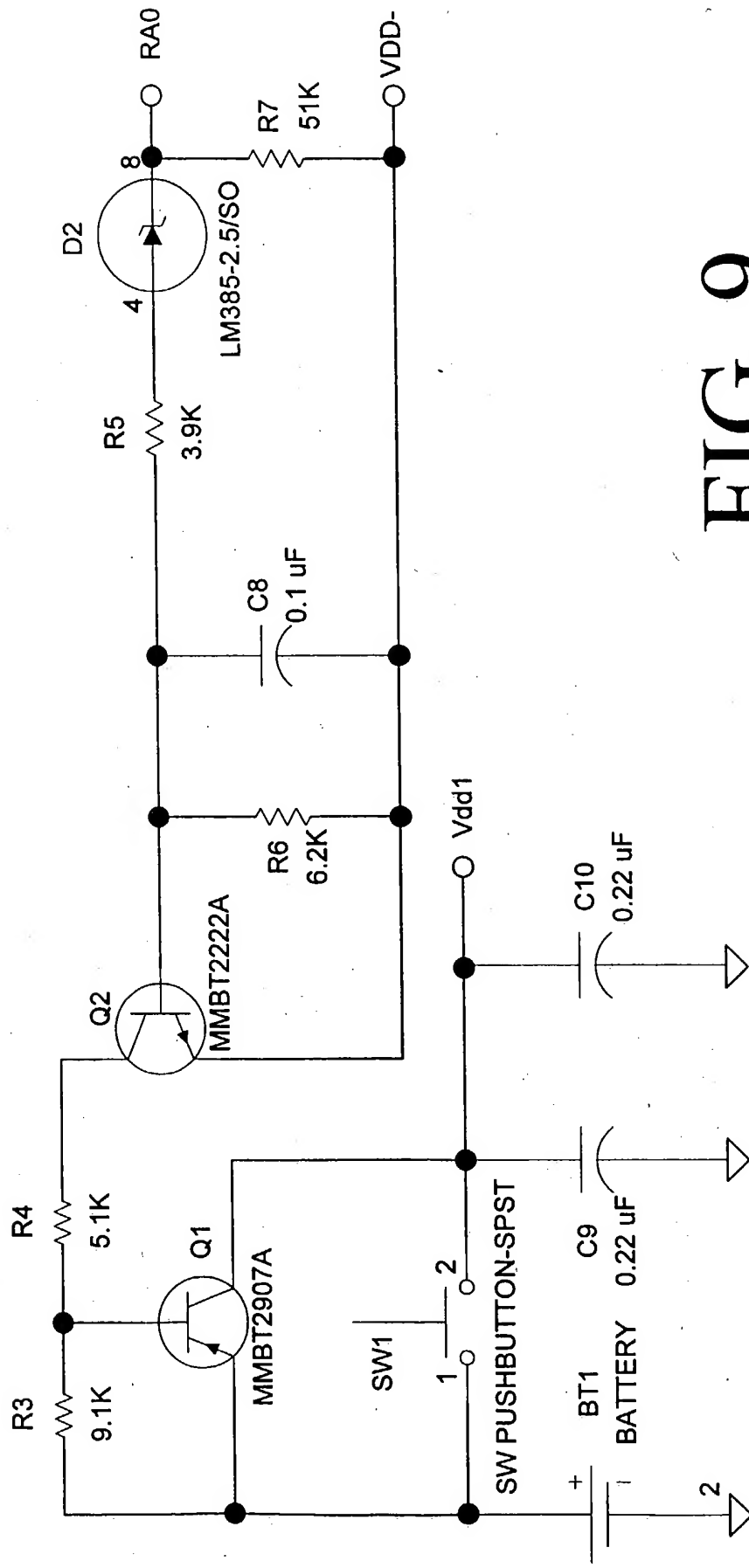


FIG. 9

SMART CARD CONNECTOR

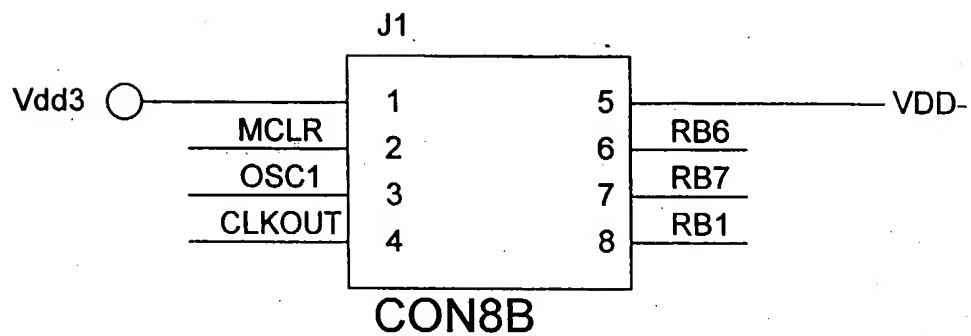


FIG. 10

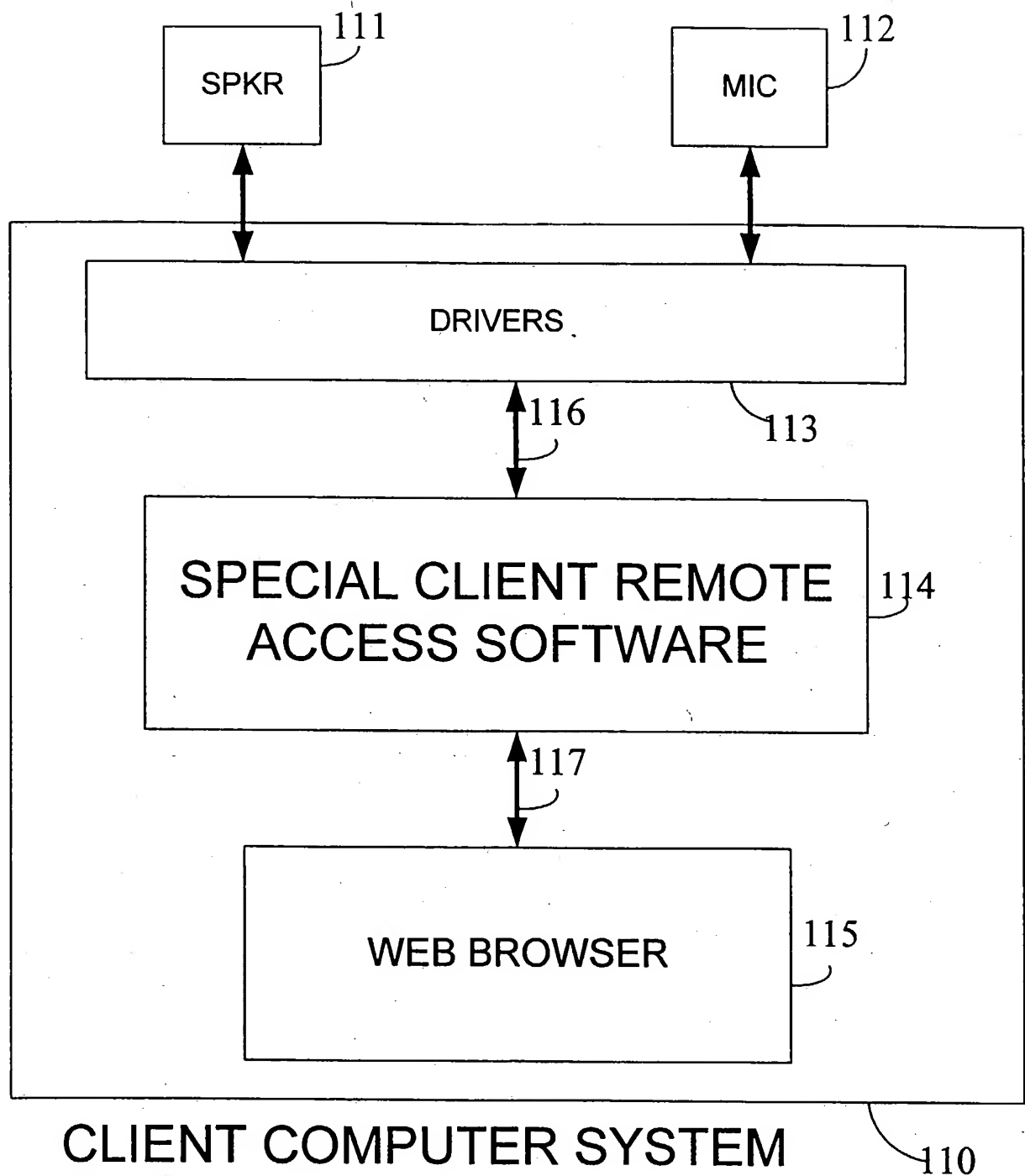


FIG 11

CARD RECEPTION SOFTWARE

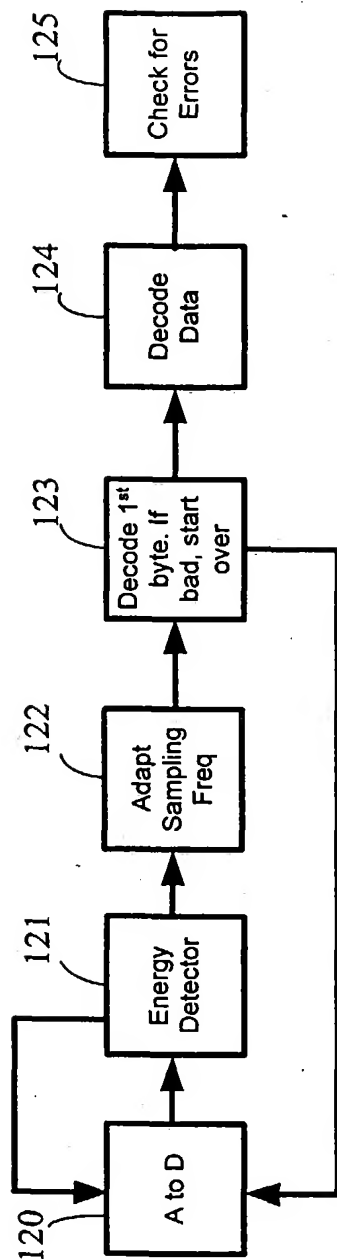


FIG. 12

PC RX SOFTWARE

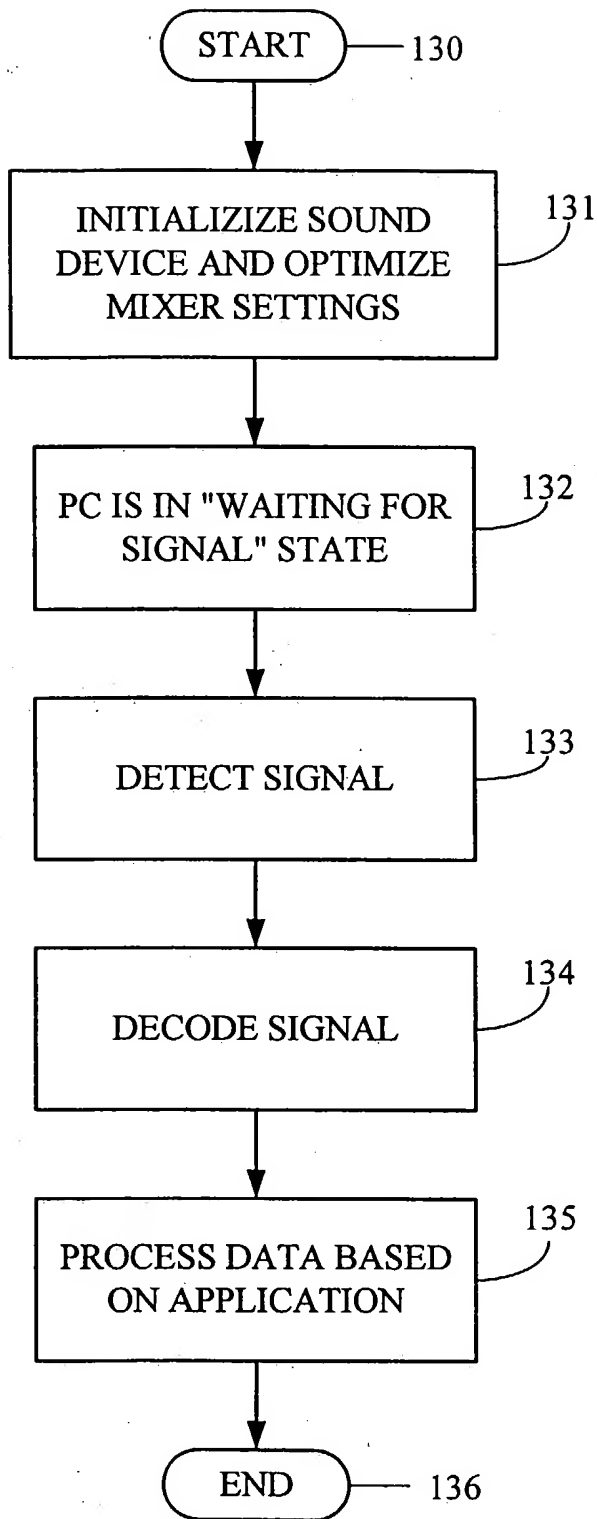


FIG. 13

SIGNAL DECODER

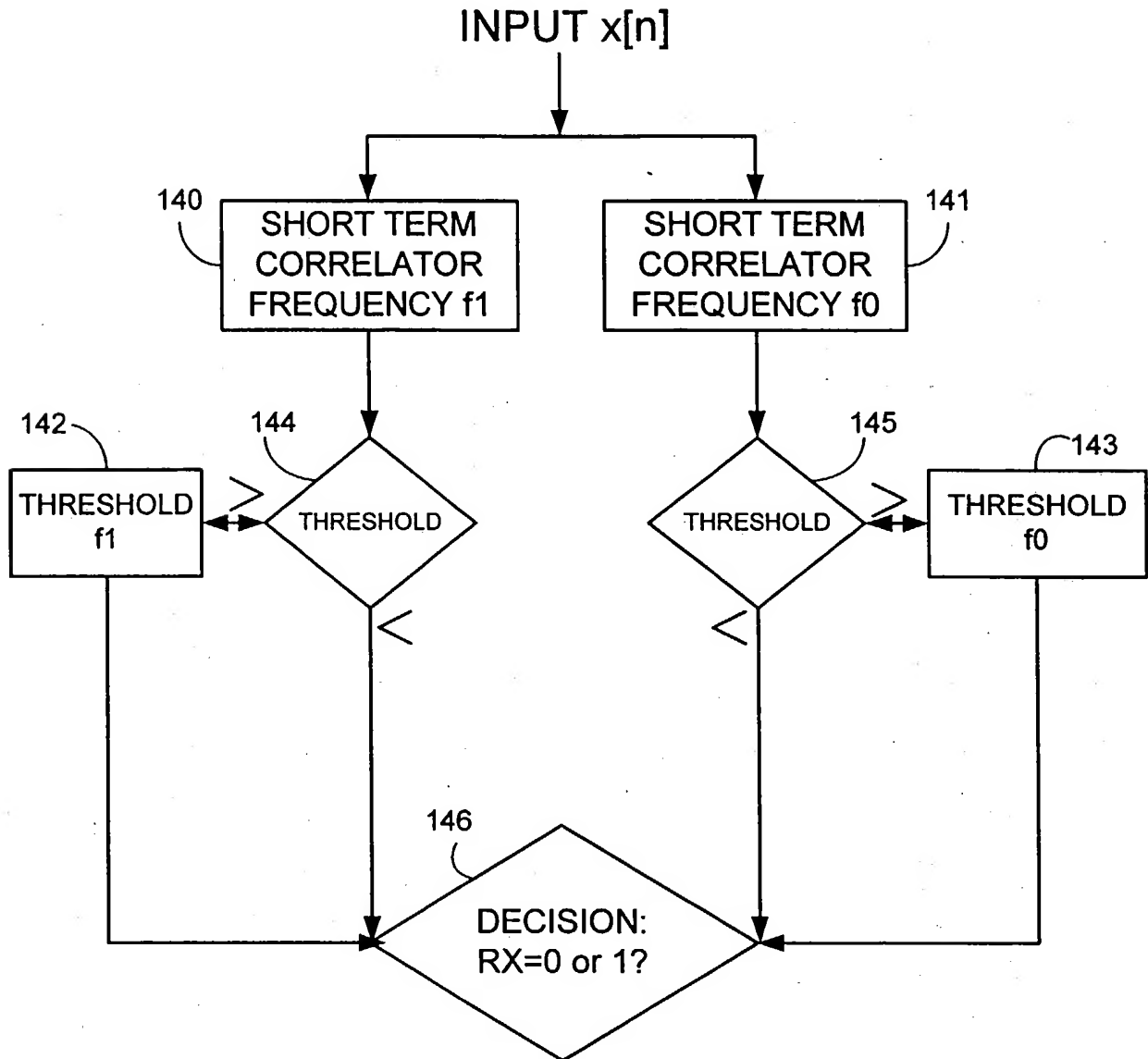
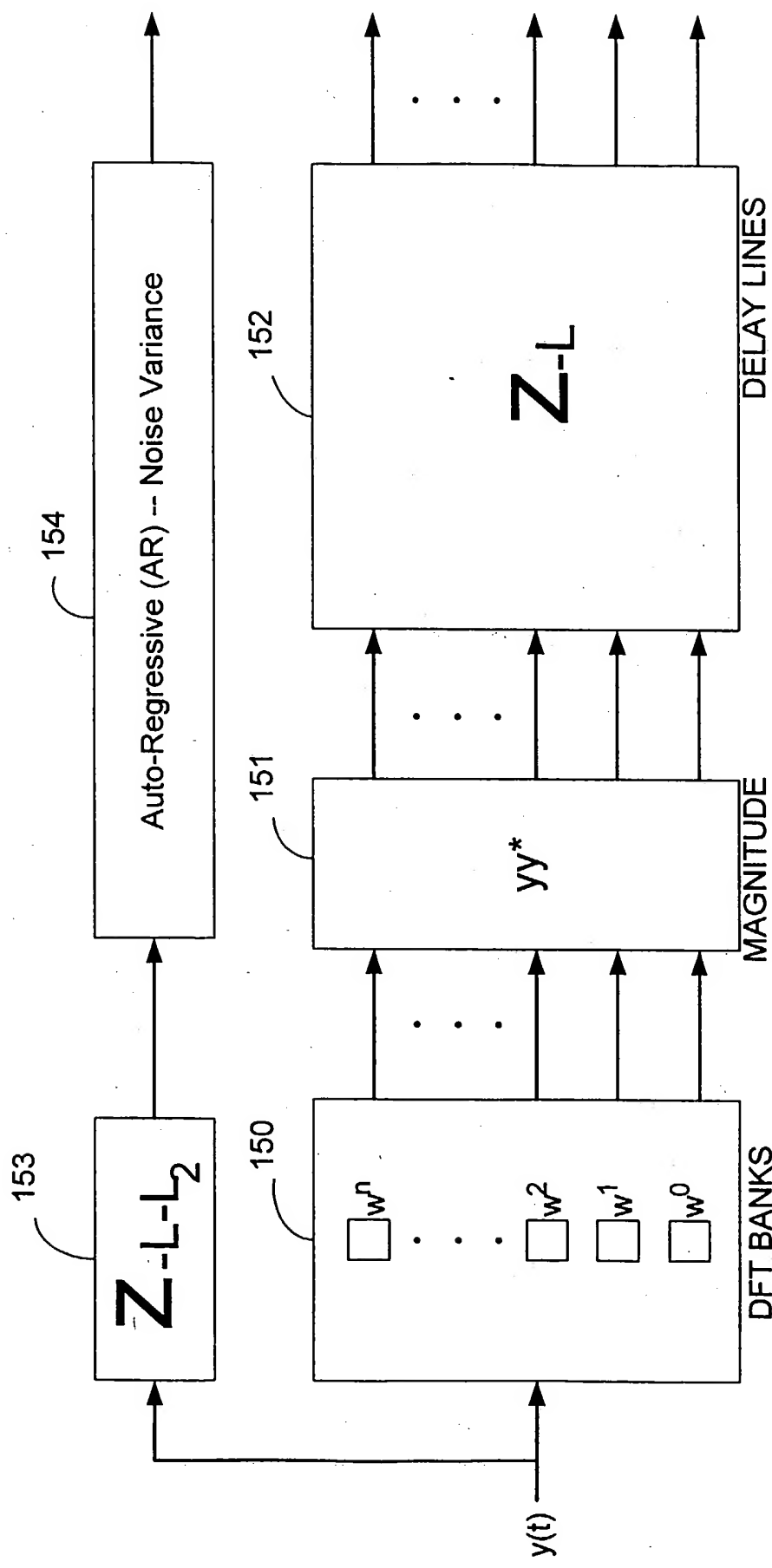


FIG 14

FIG. 15



SIGNAL DETECTION

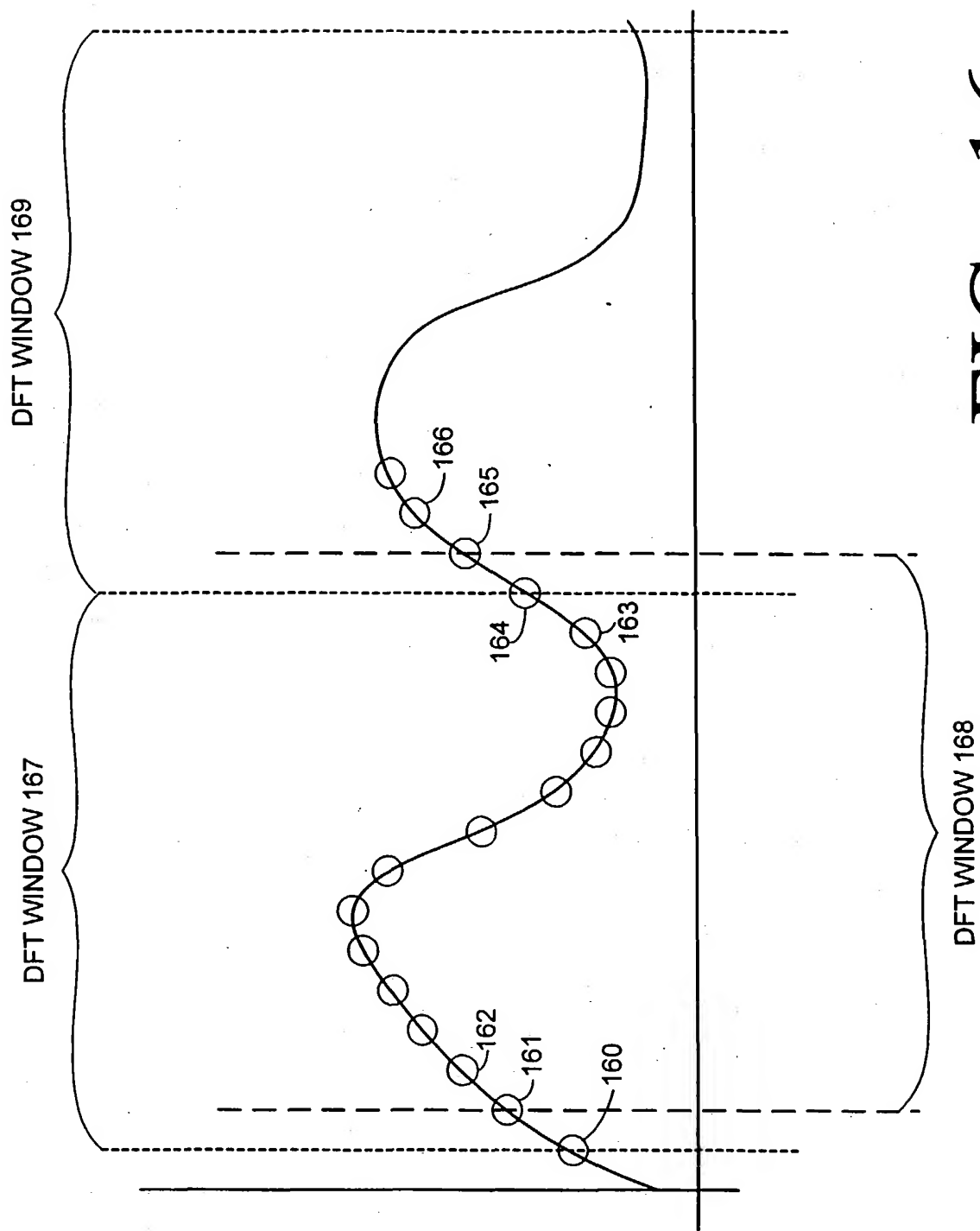


FIG 16

ALTERNATIVE EMBODIMENT -- ONE-WAY TX HARDWARE

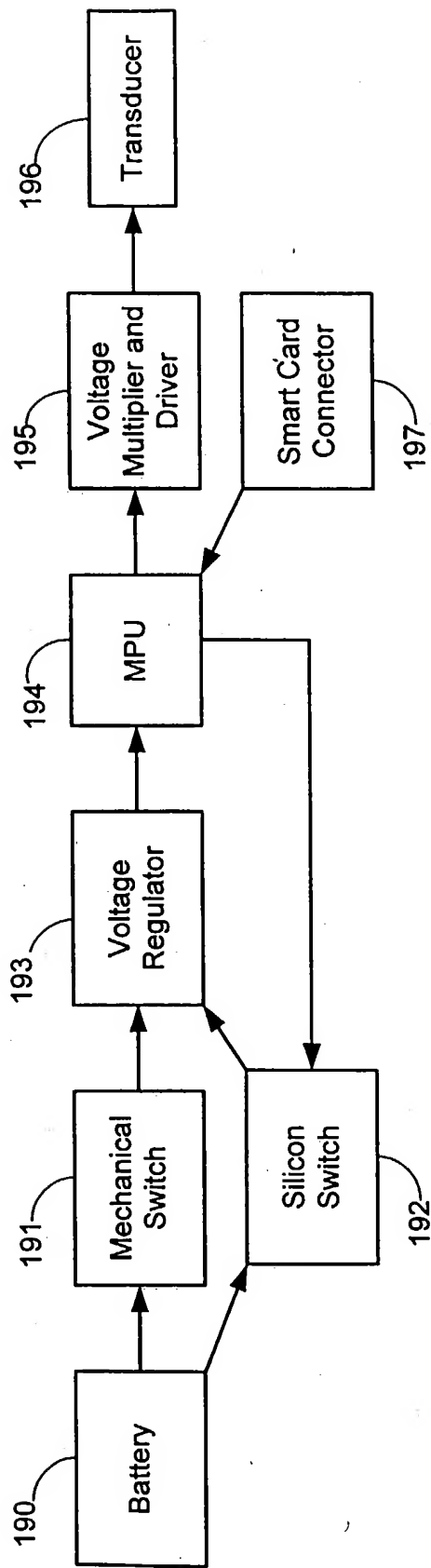
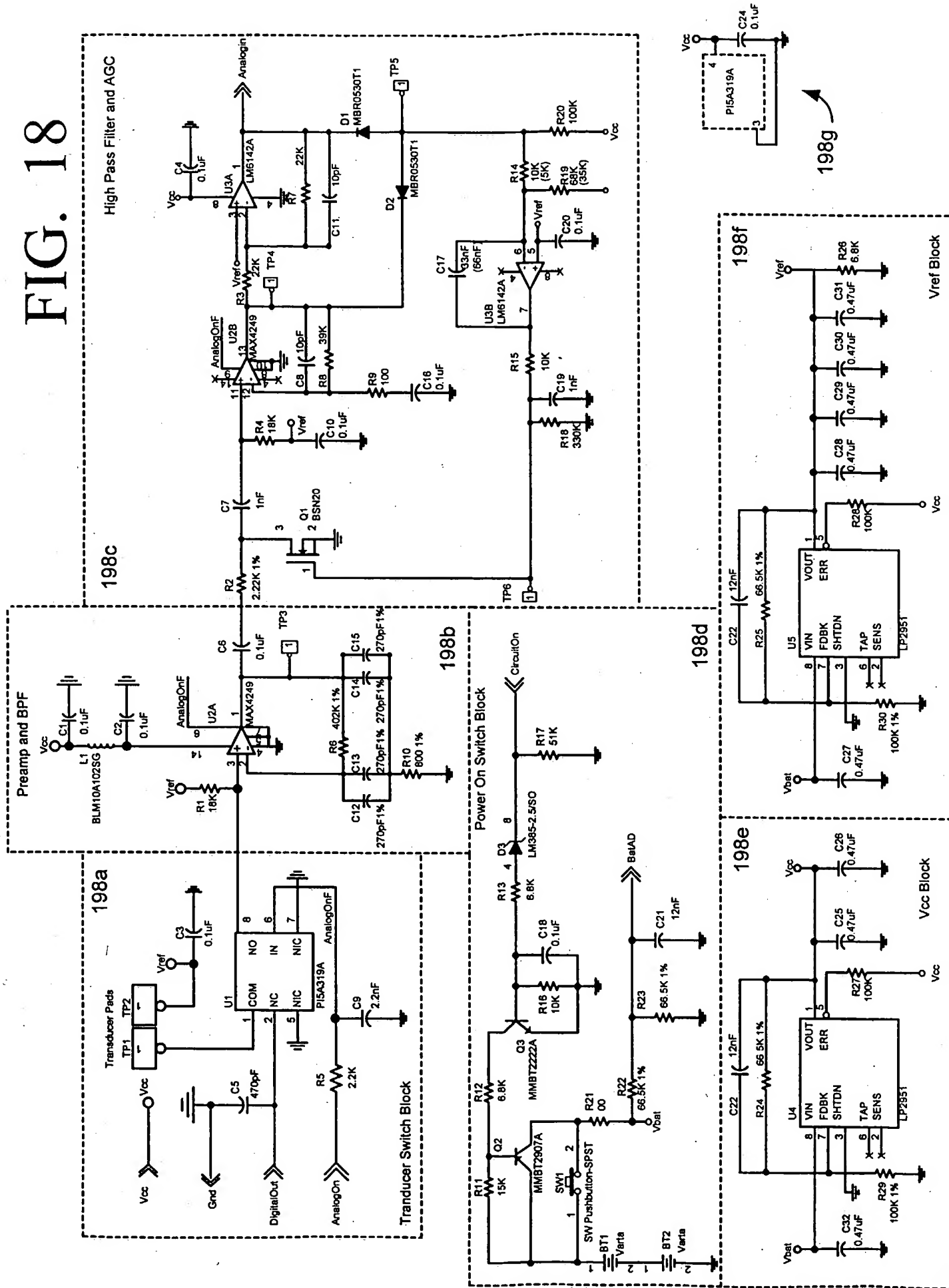
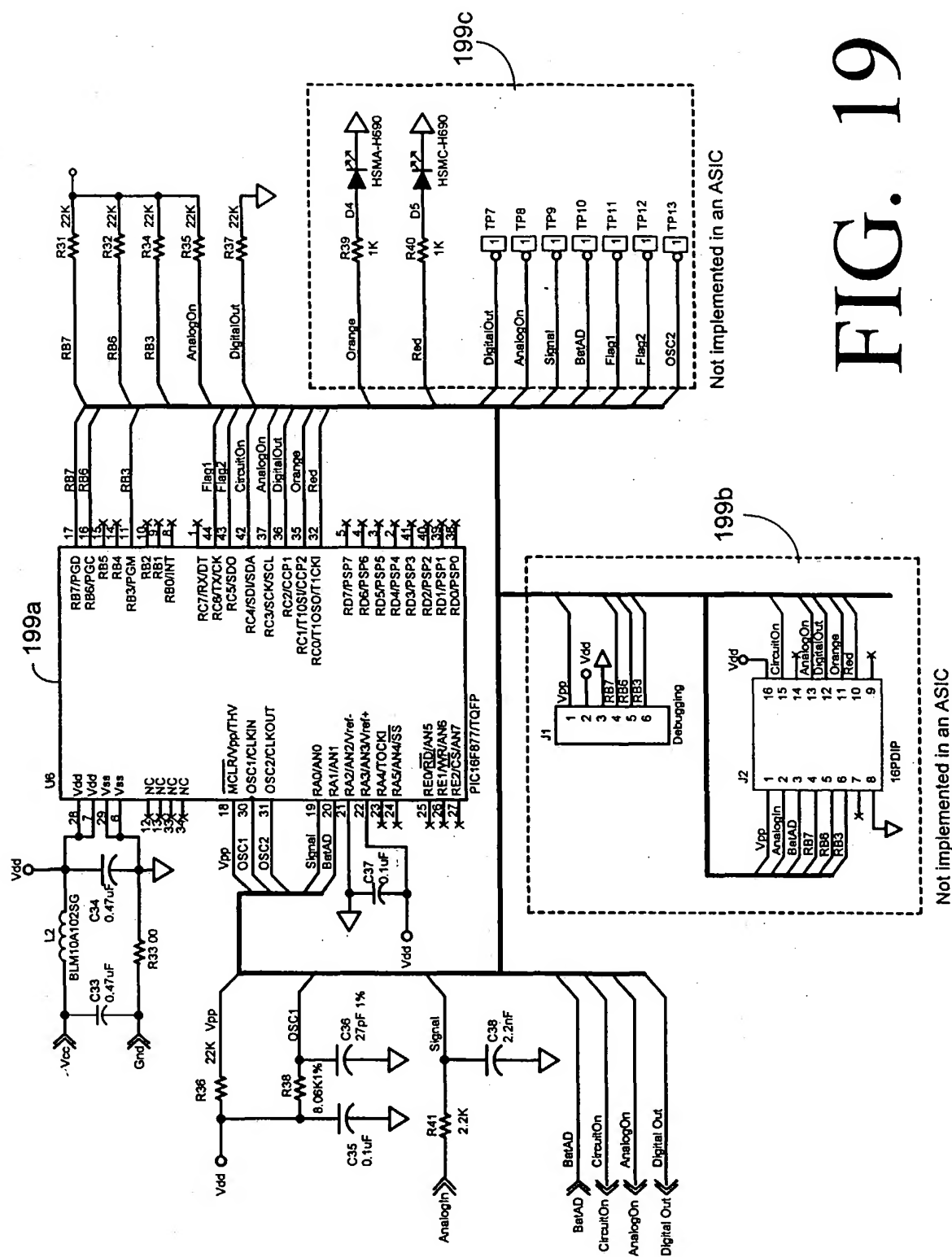


FIG. 17

FIG. 18





CARD ARCHITECTURE -- ANALOG RECORDING

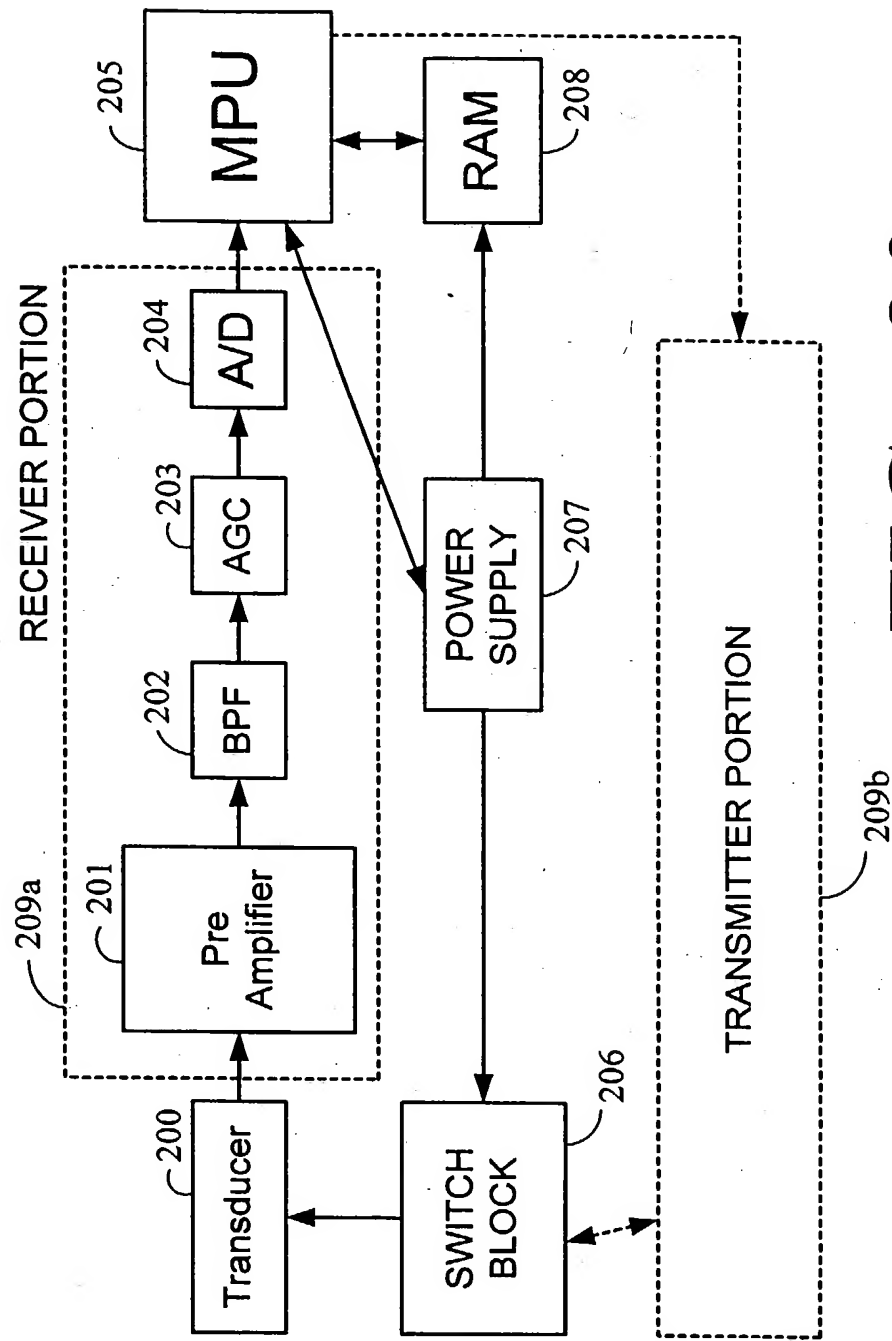


FIG. 20

SERVER ARCHITECTURE

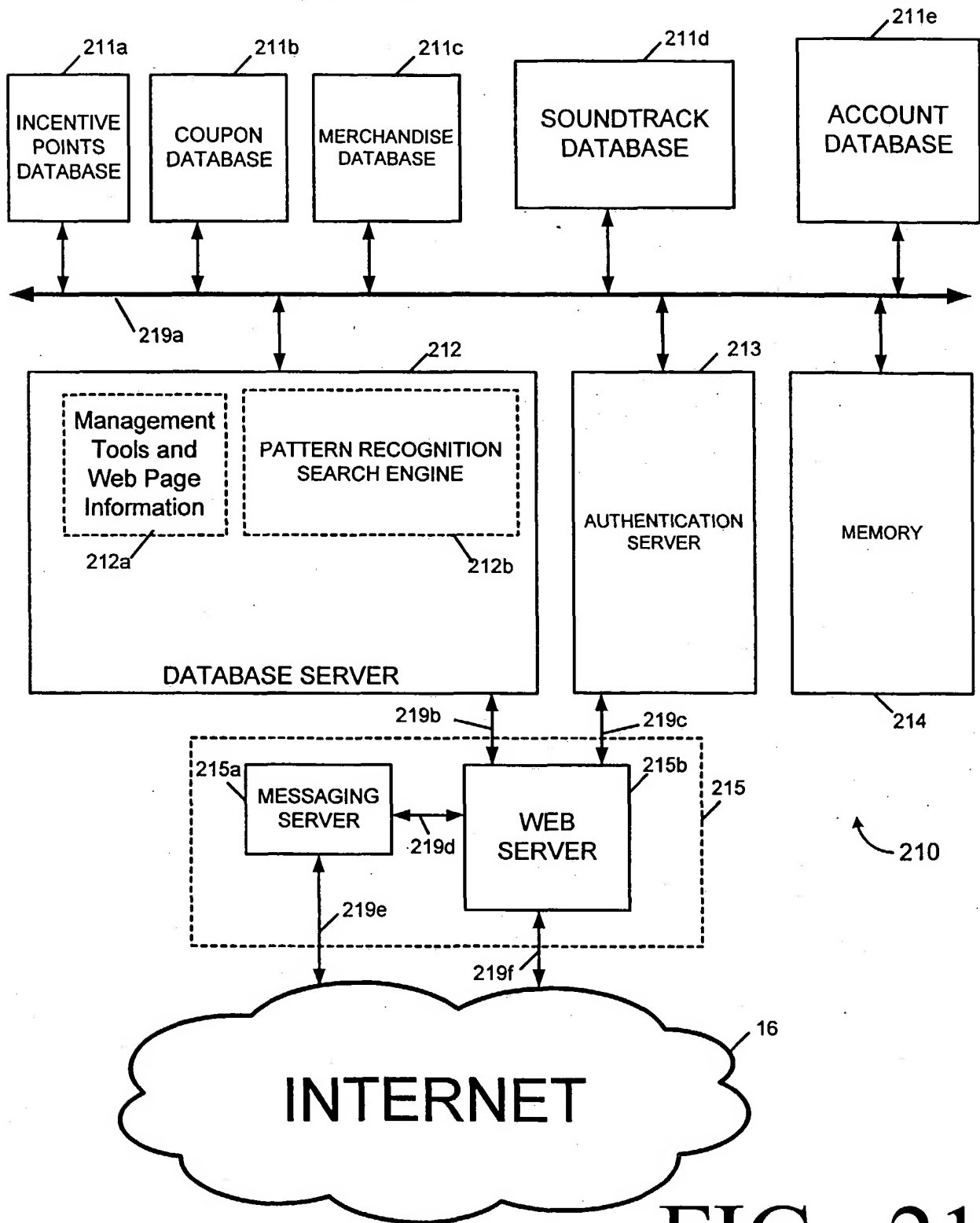


FIG 21

PATTERN RECOGNITION SEARCH ENGINE

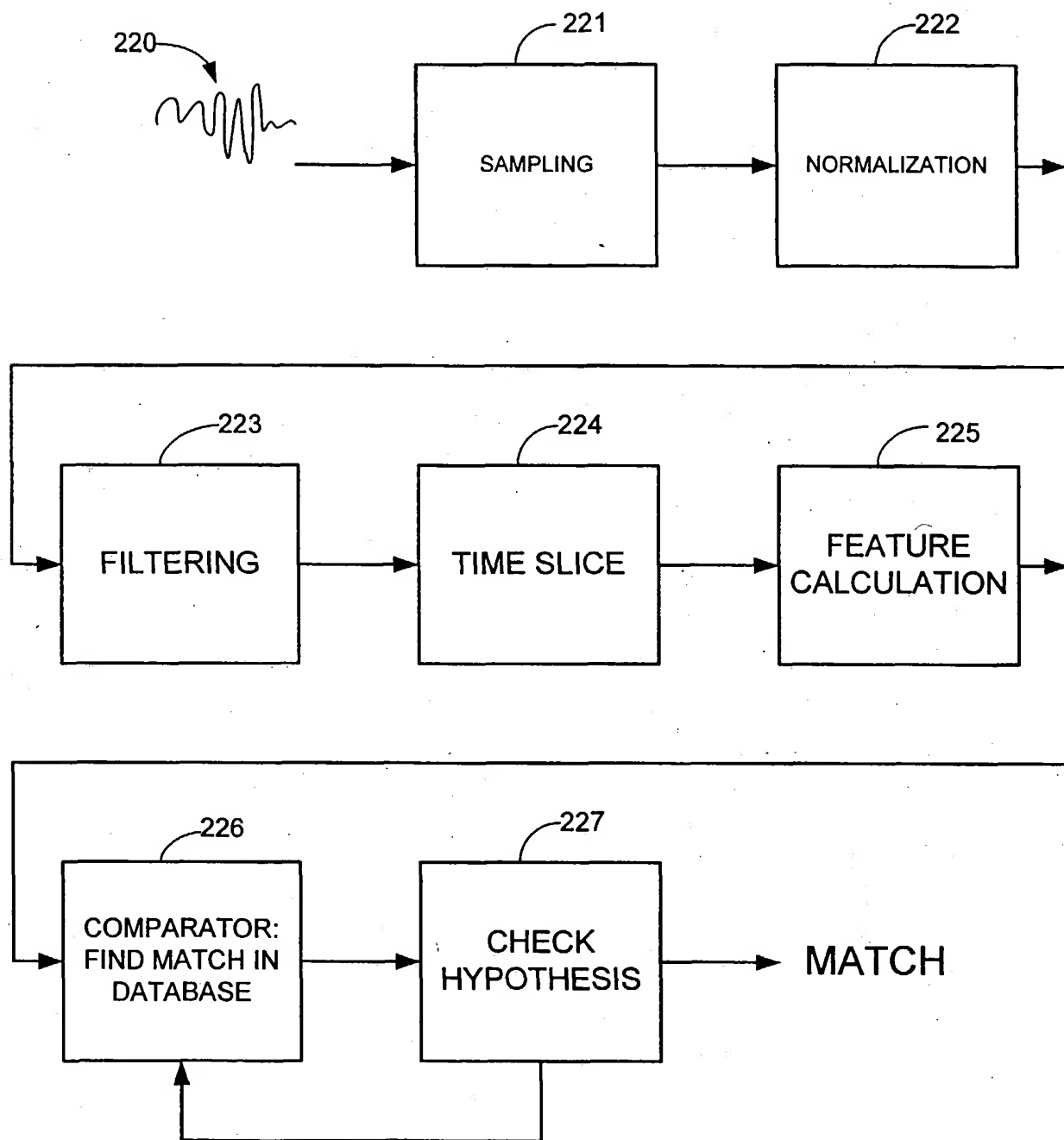


FIG 22

CABLE TV

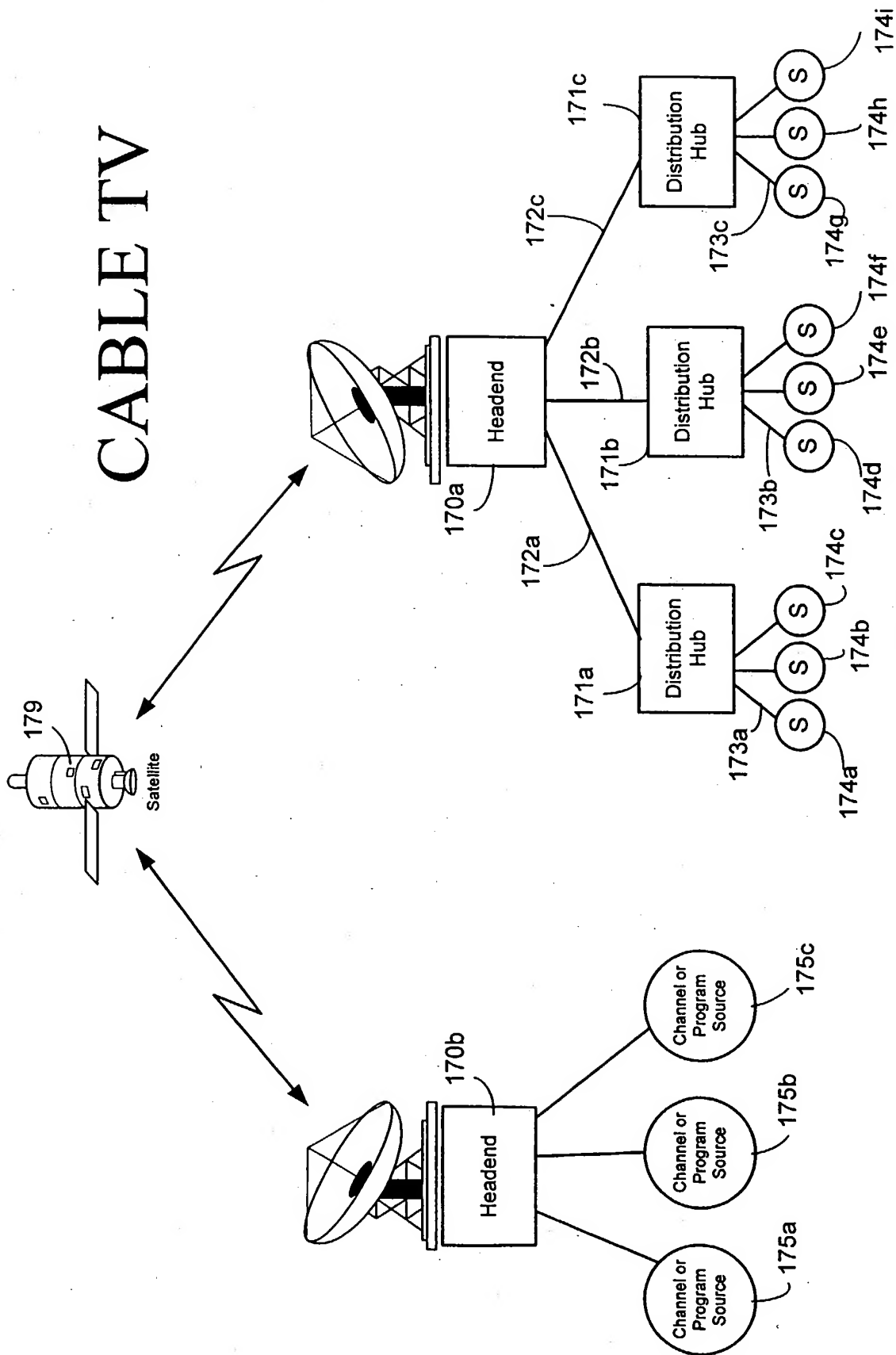


FIG 23

BROADCAST TV/RADIO

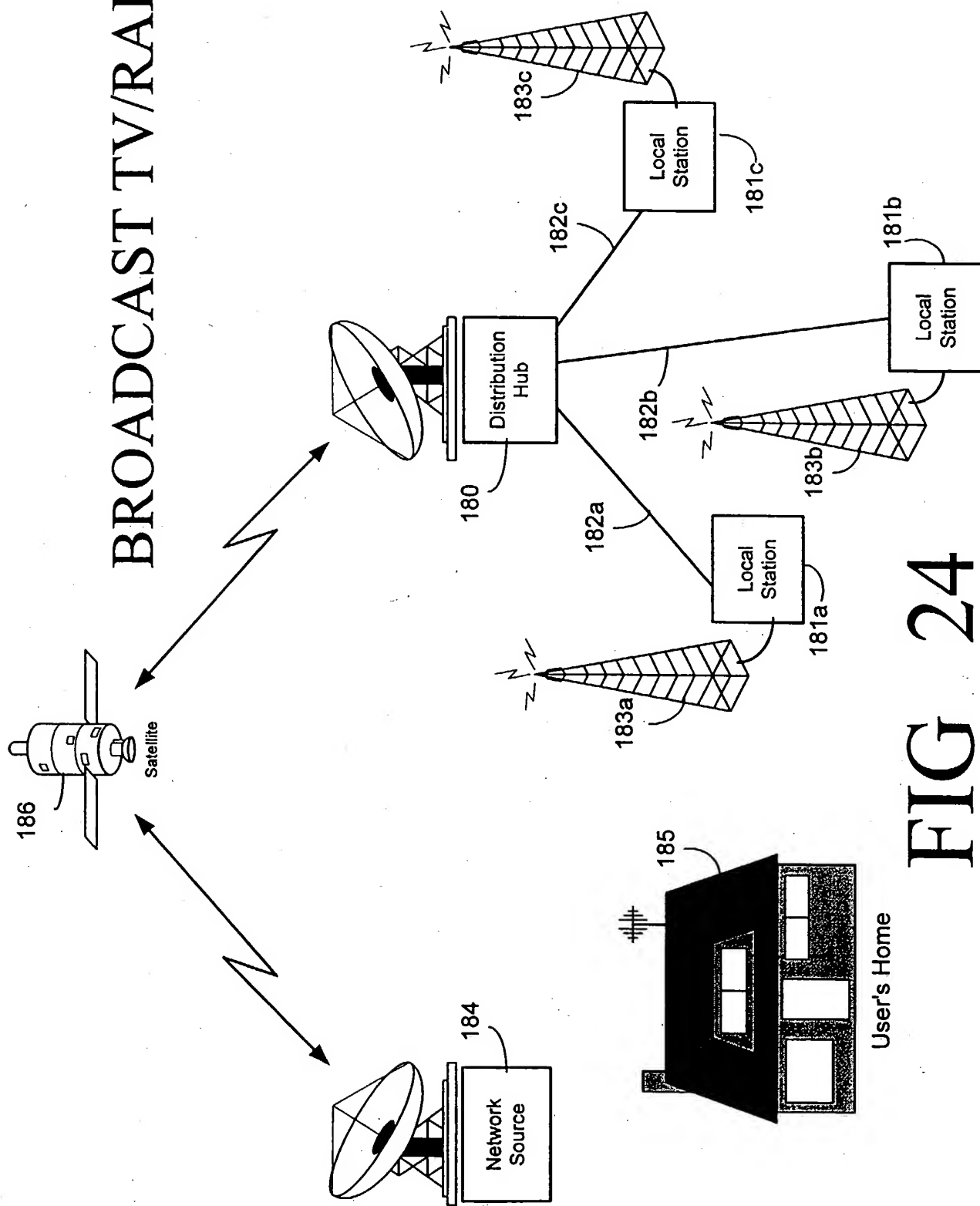


FIG 24

COMPONENT LAYOUT #1

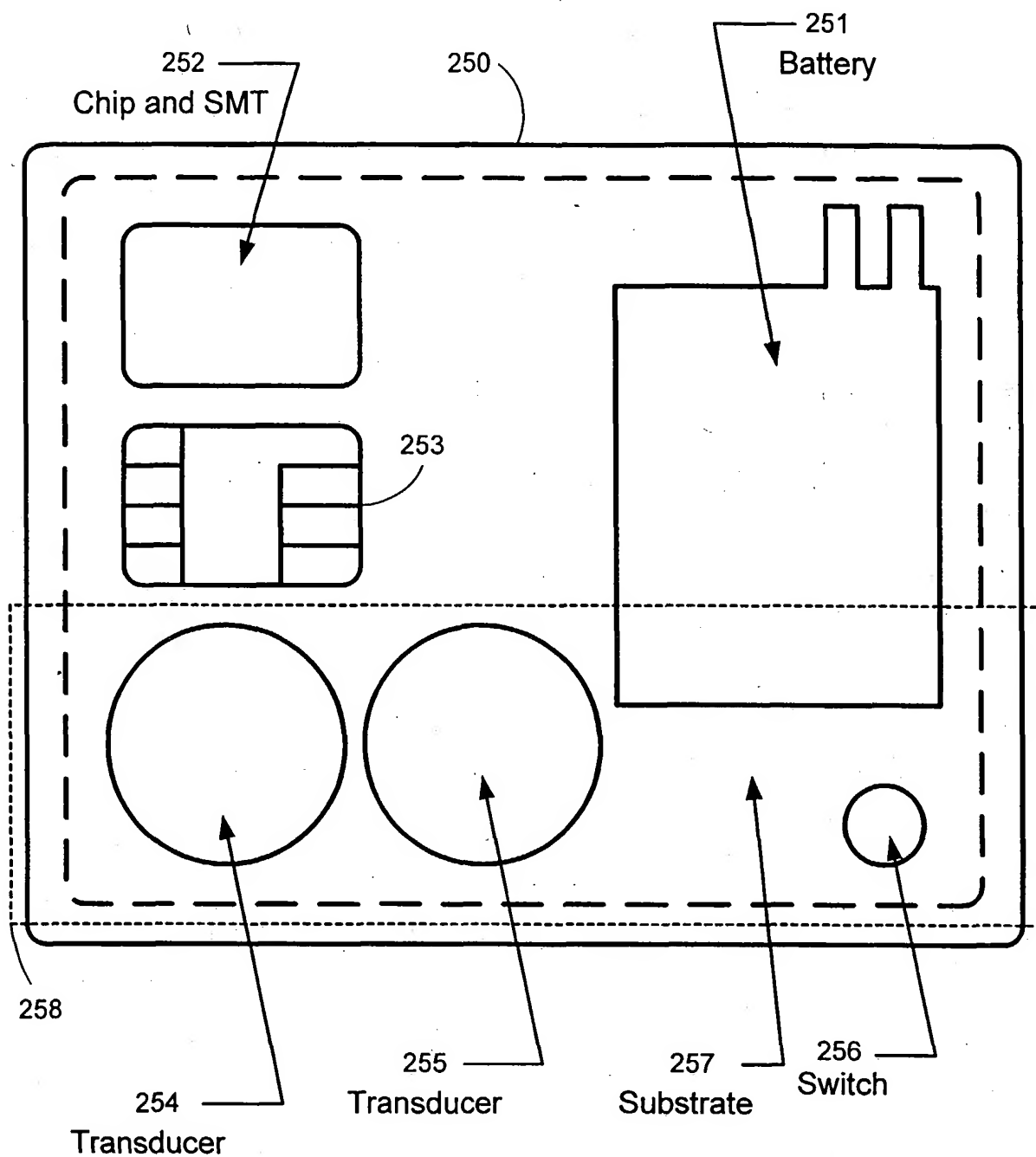


FIG 25(A)

COMPONENT LAYOUT #2

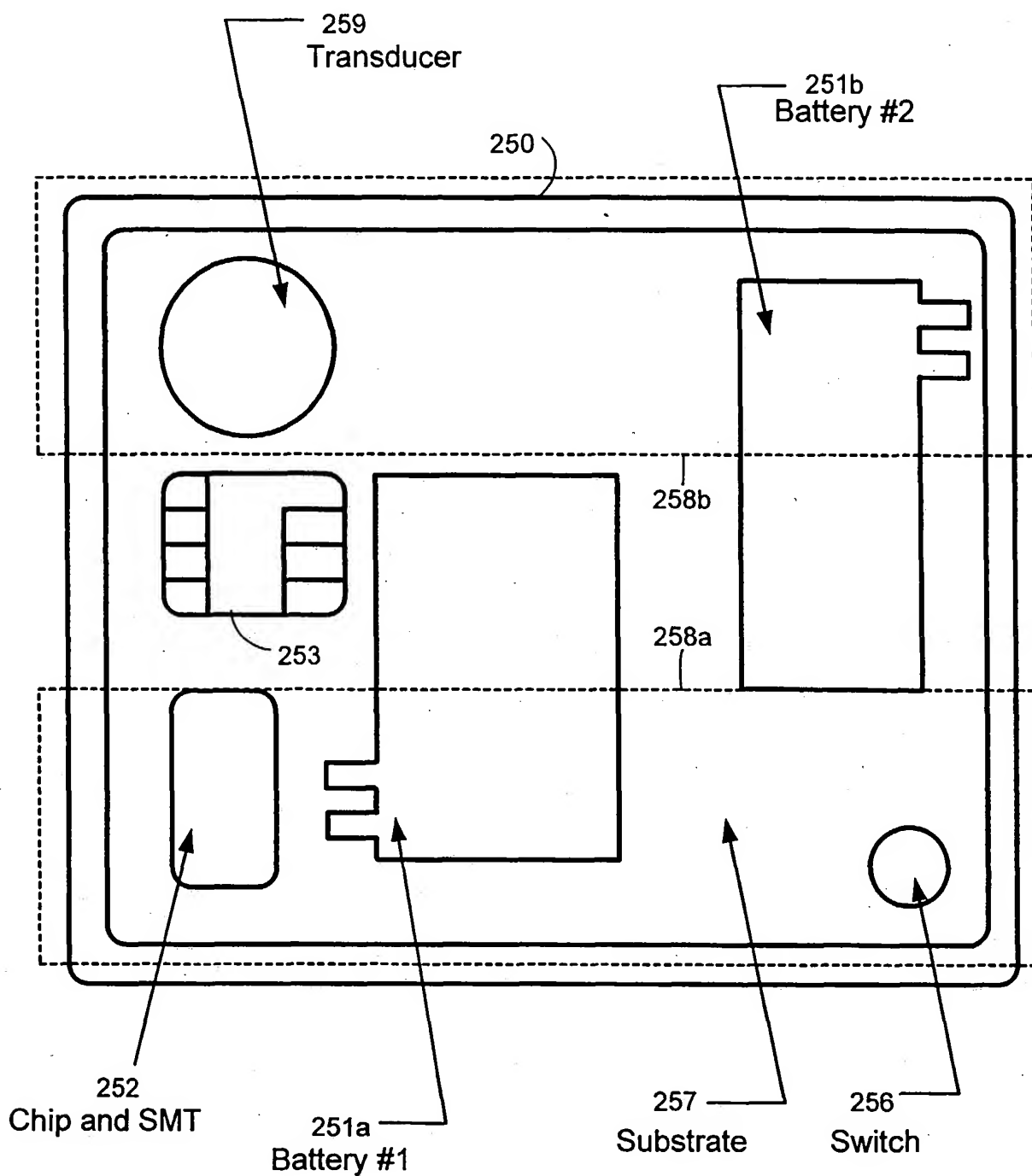


FIG 25(B)

COMPONENT LAYOUT #3

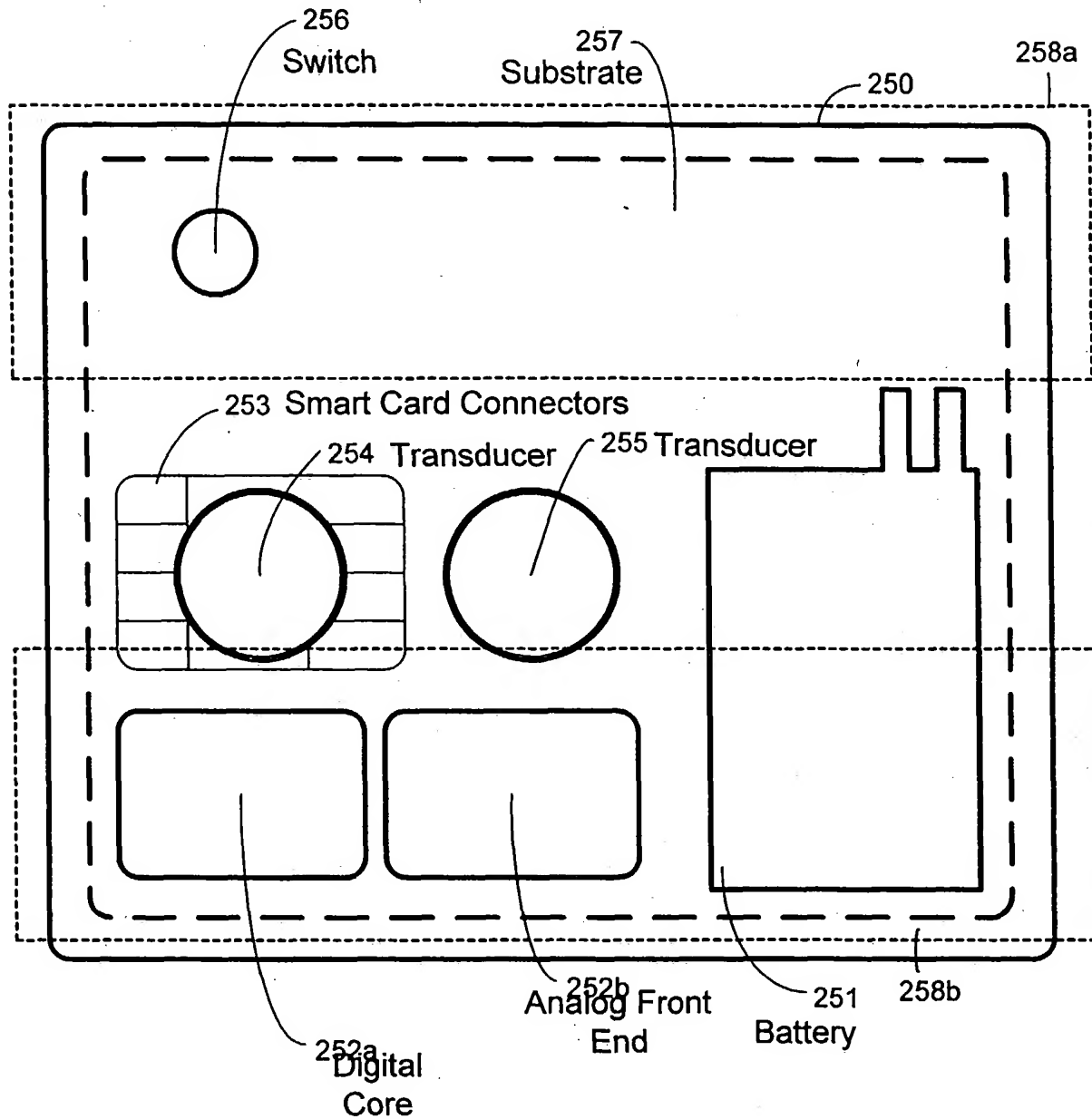


FIG 25(C)

CARD FABRICATION

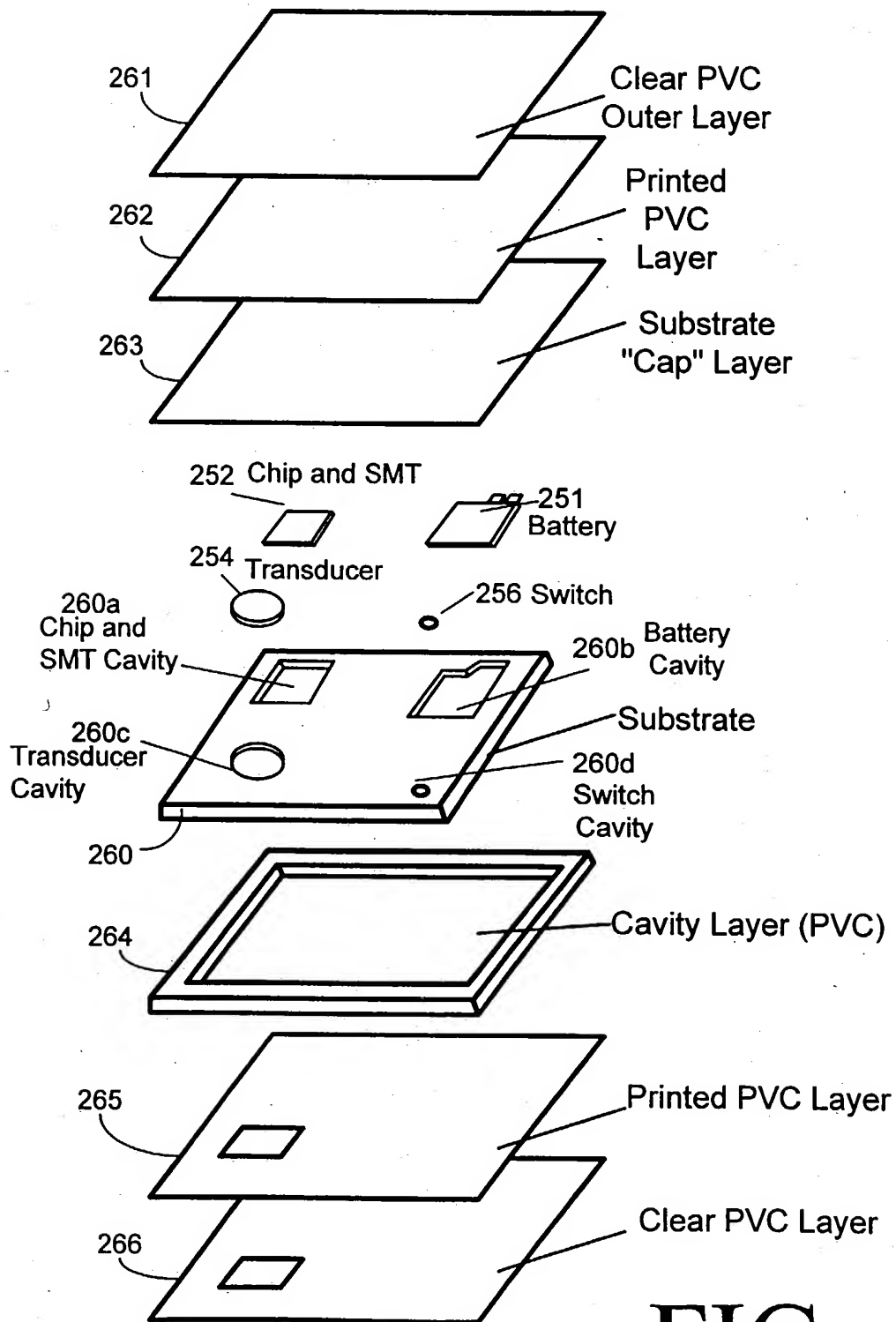


FIG. 26

TRANSDUCER FABRICATION

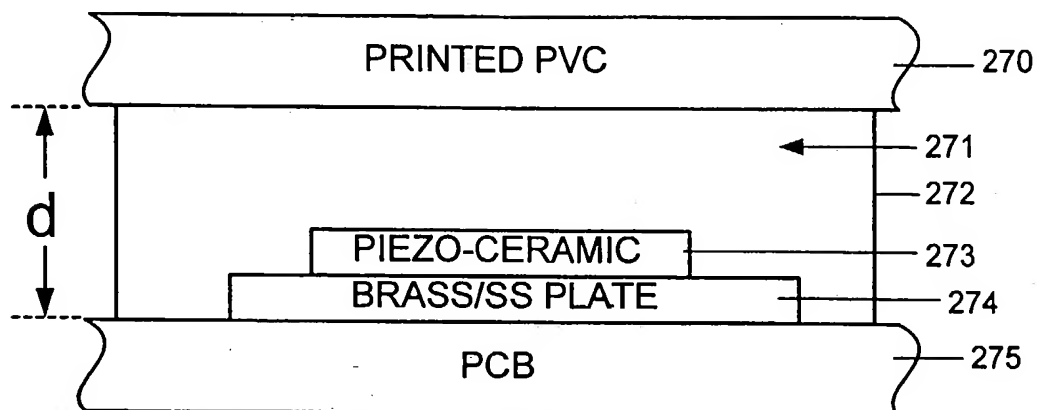


FIG. 27(A)

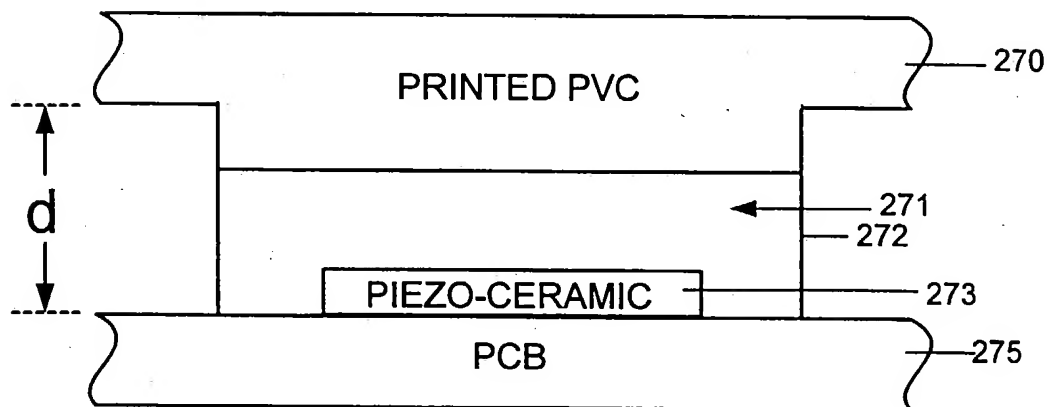


FIG. 27(B)

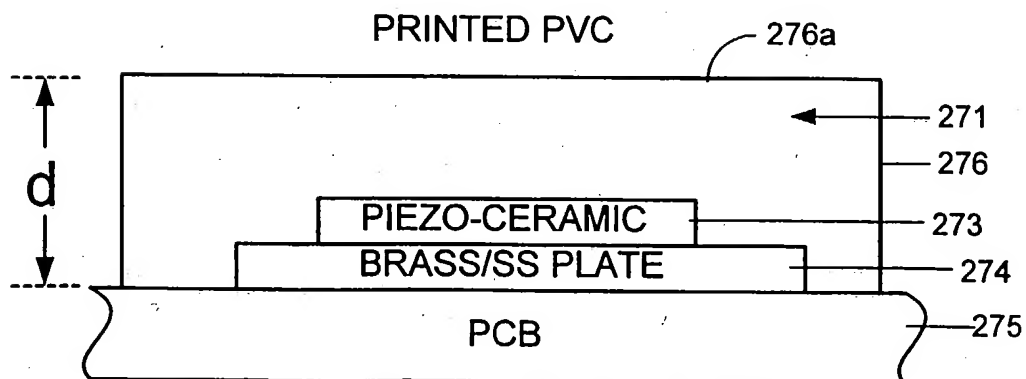


FIG 27(C)

MULTI-MODE SWITCH

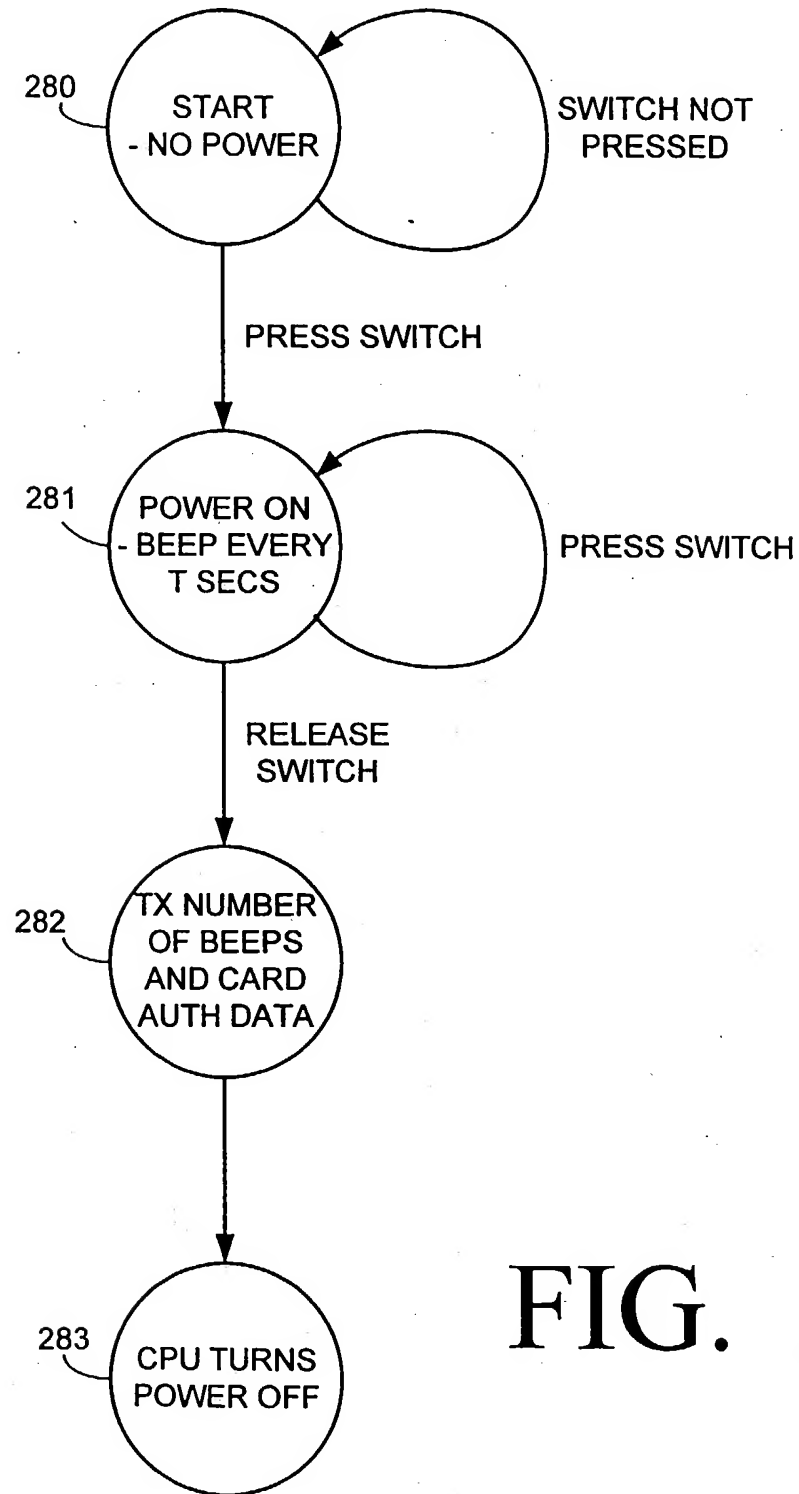


FIG. 28

E-WALLET SYSTEM

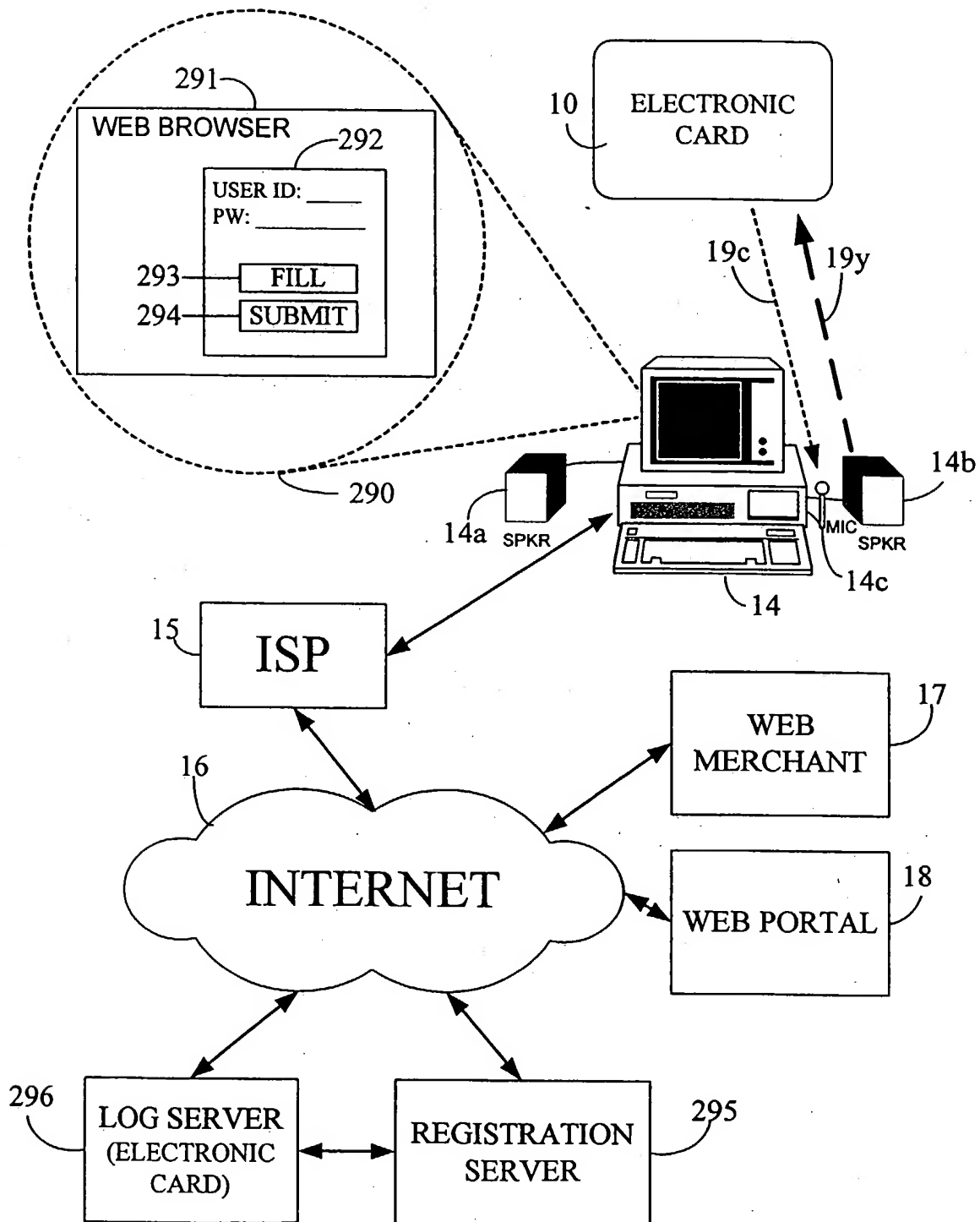
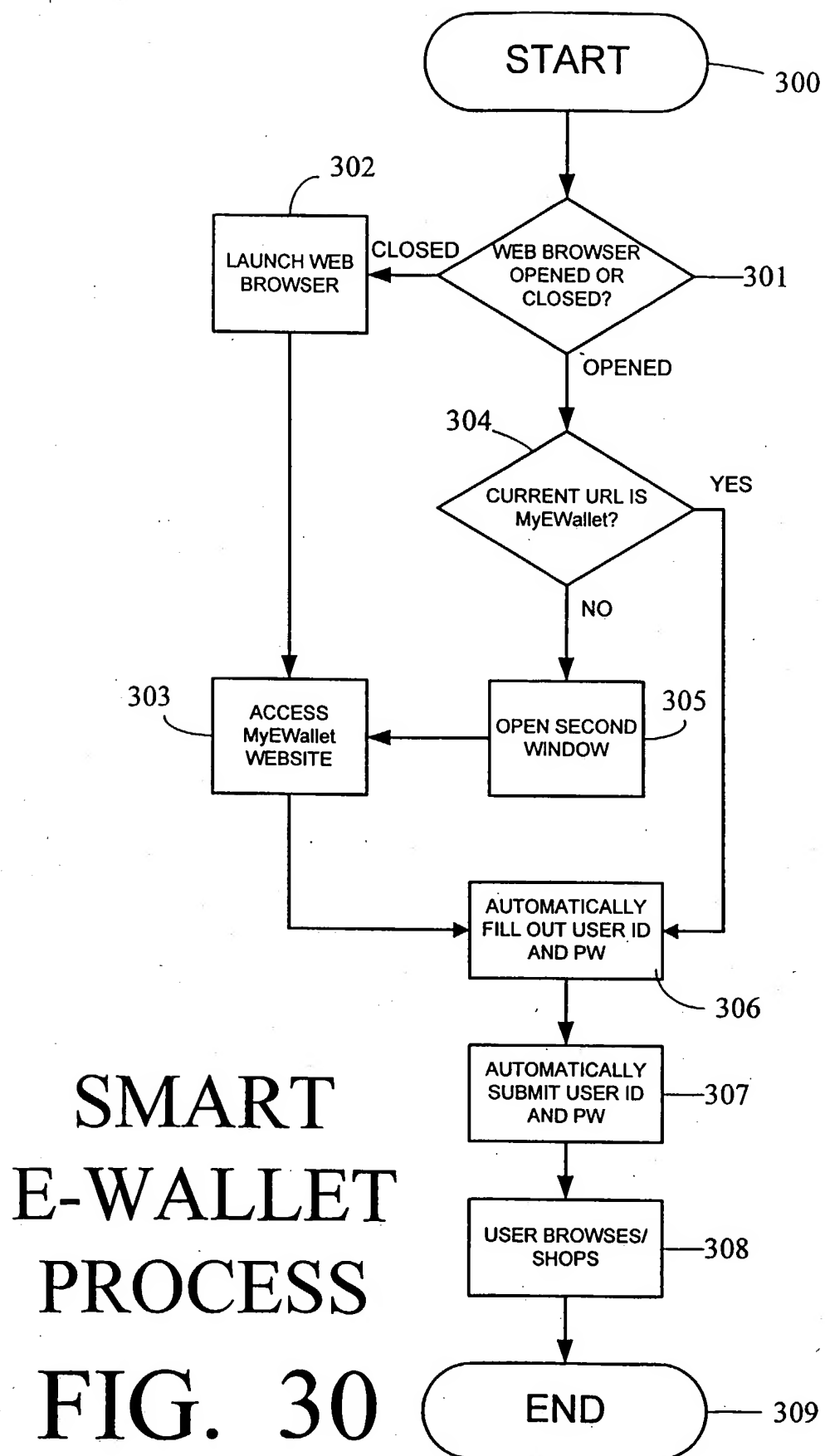


FIG 29



CREDIT CARD TRANSACTION MODEL

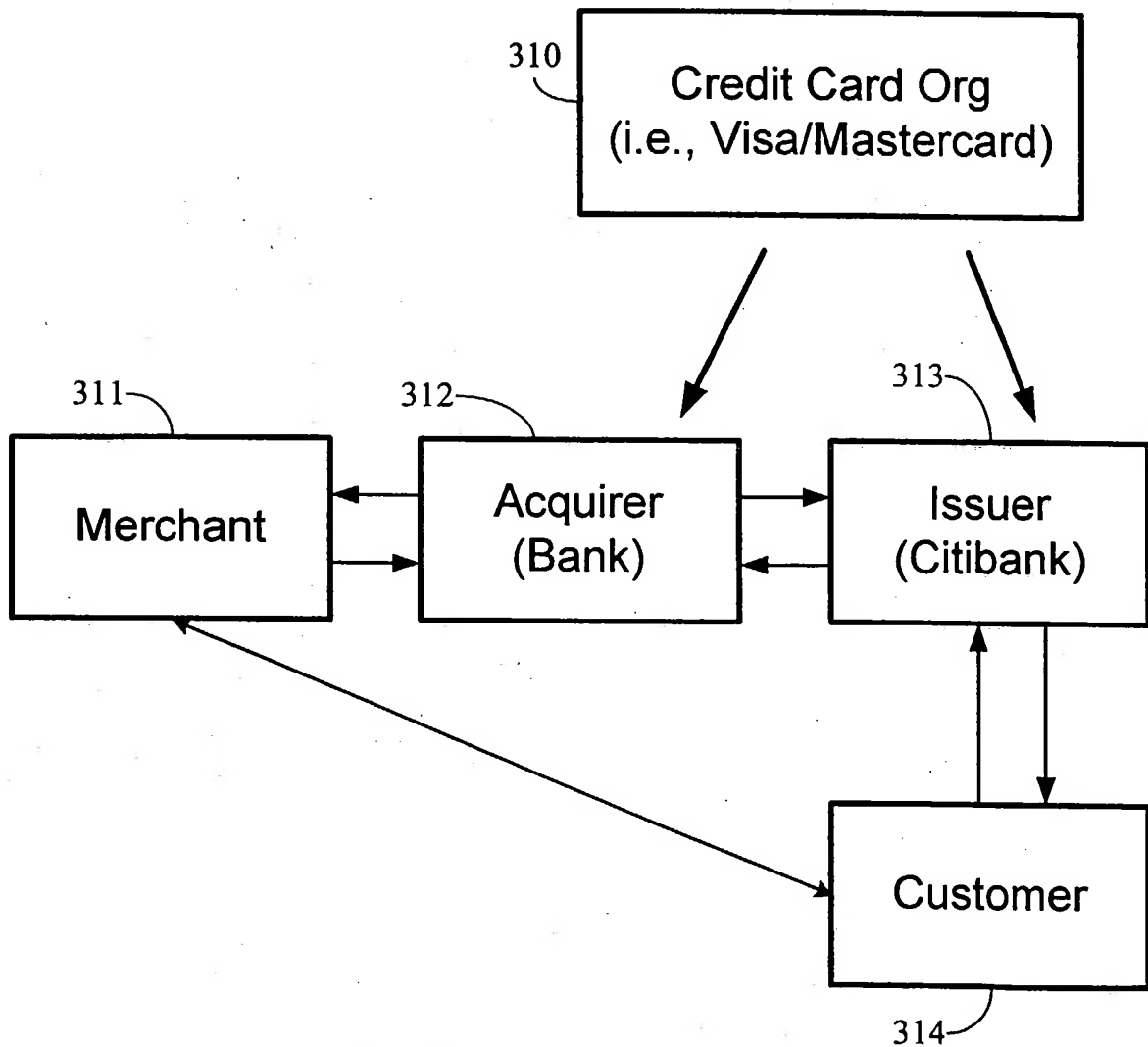


FIG 31

ON-LINE AUTHENTICATION

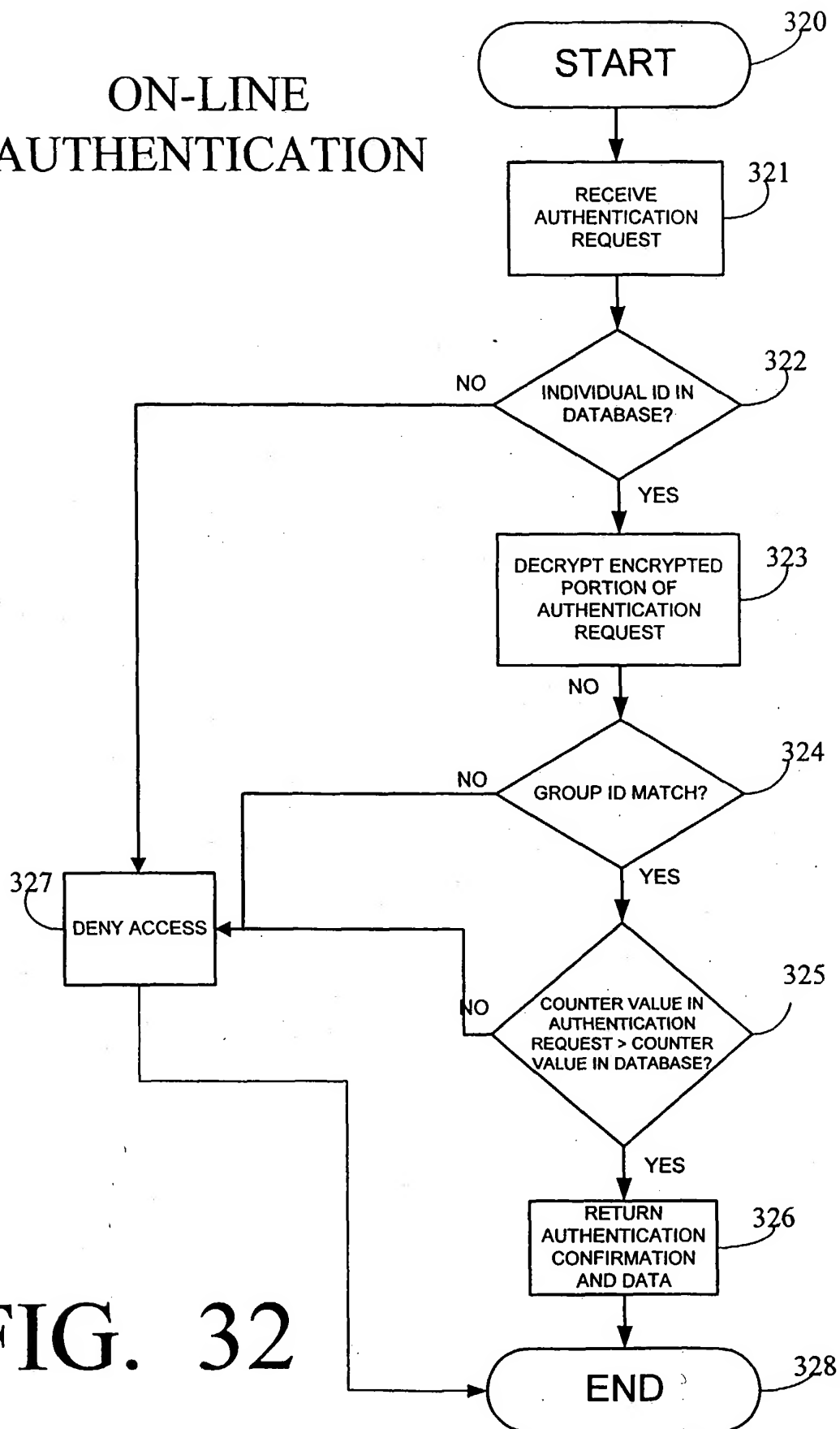


FIG. 32

CHALLENGE-RESPONSE: CUSTOMER CHECKS MERCHANT

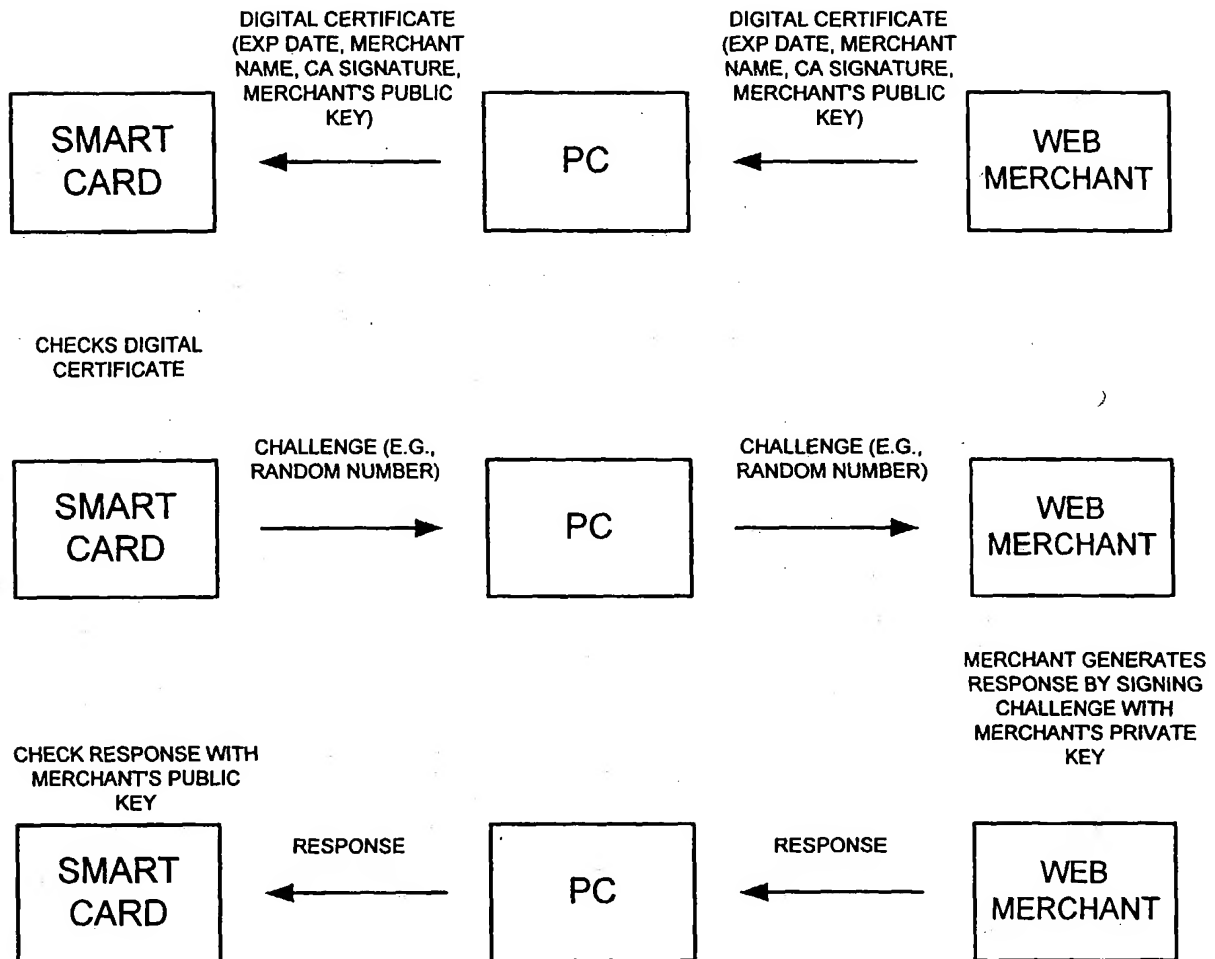


FIG. 33

CHALLENGE-RESPONSE: MERCHANT CHECKS CUSTOMER

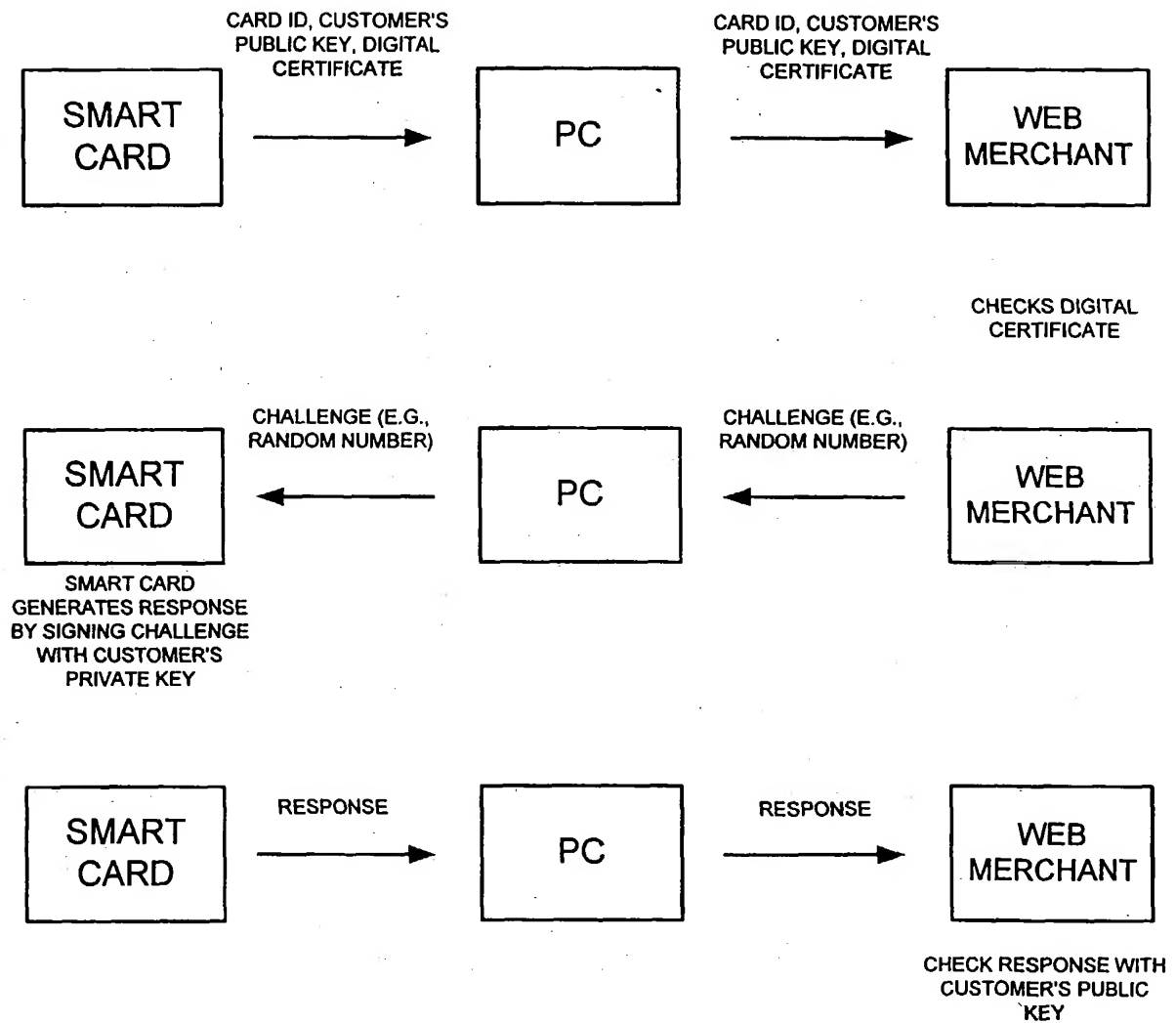


FIG. 34

CONCURRENT CHALLENGE-RESPONSE: MERCHANT AND CUSTOMER CHECK EACH OTHER

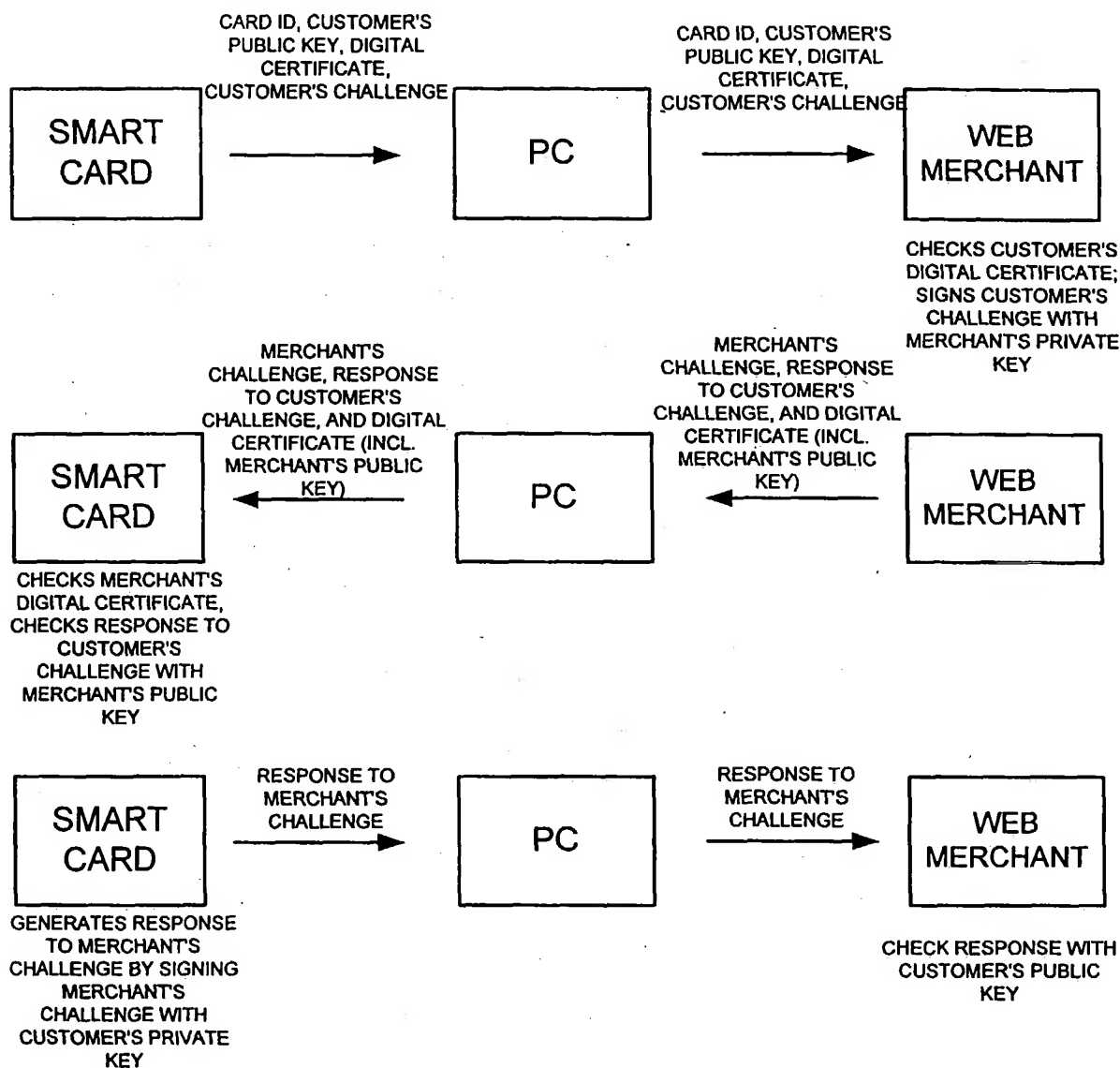


FIG. 35

CSP EMBODIMENT

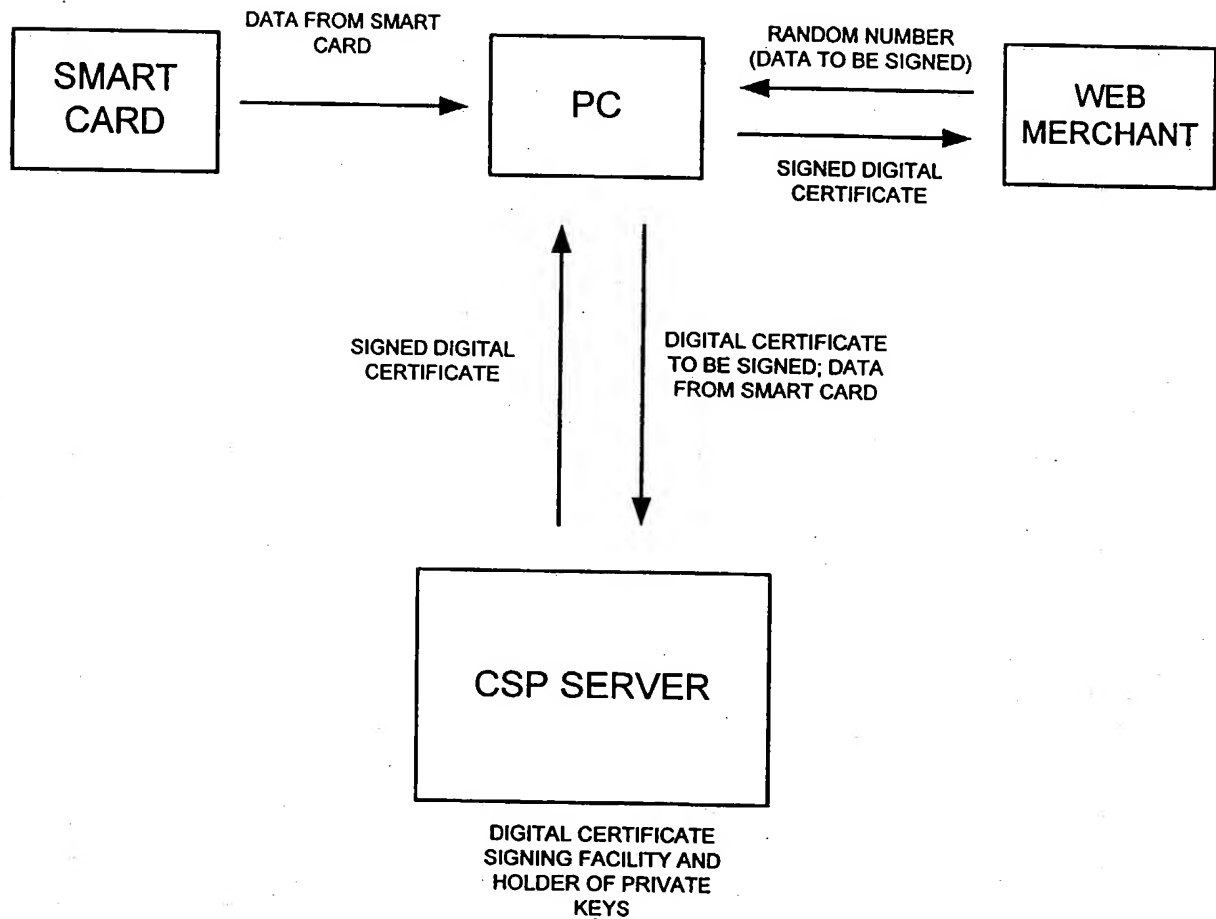


FIG. 36

FM IF System for RF Decoding (1)

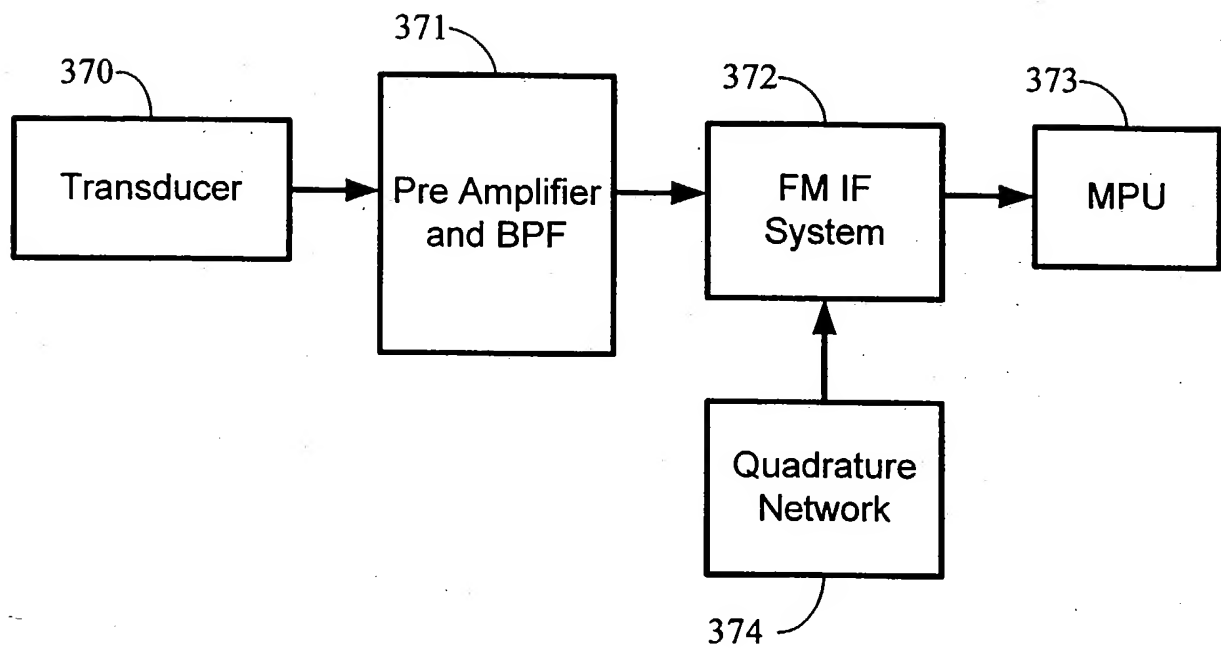


FIG. 37

FM IF System for RF Decoding (2)

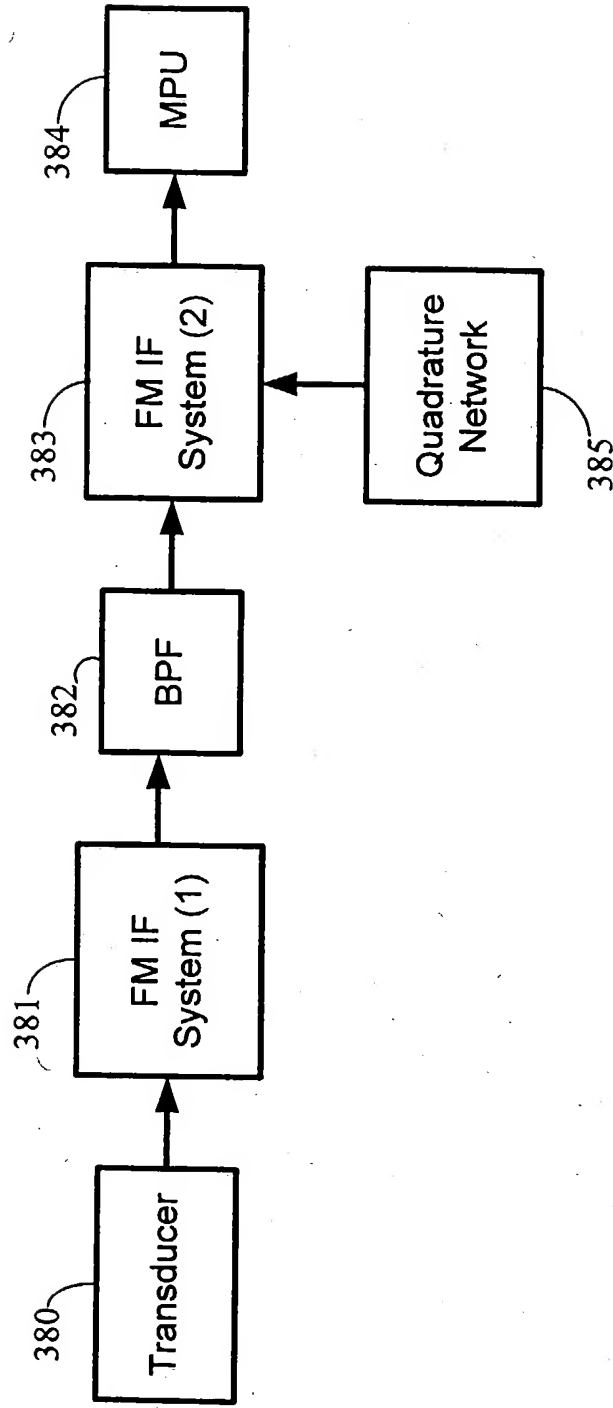


FIG. 38

Magnetic Field Decoding

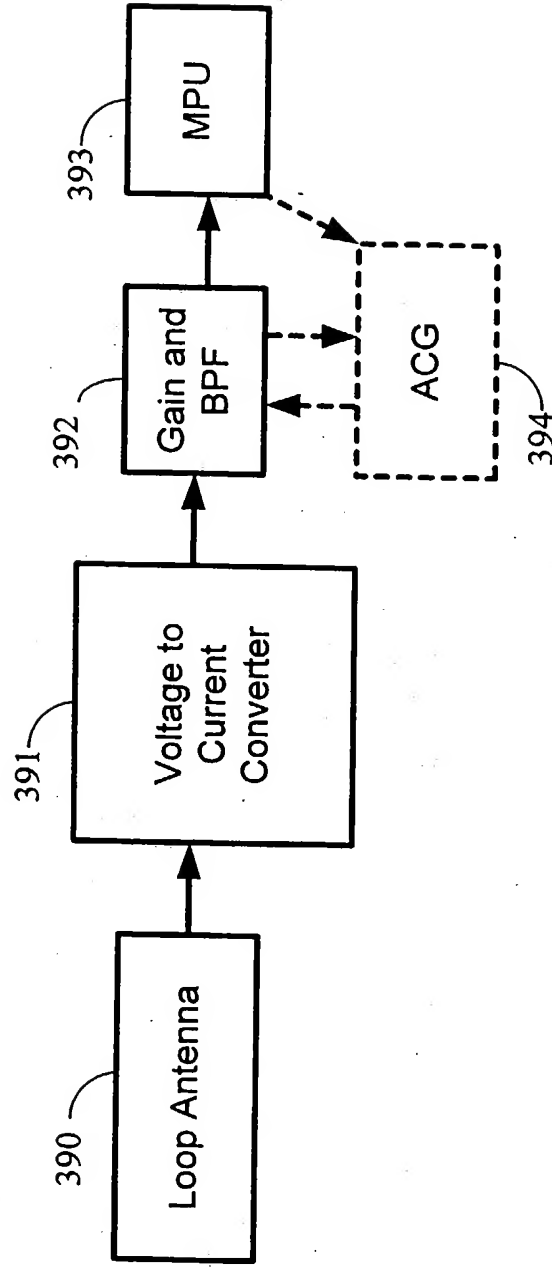


FIG 39

Using Hardware PLL for Decoding

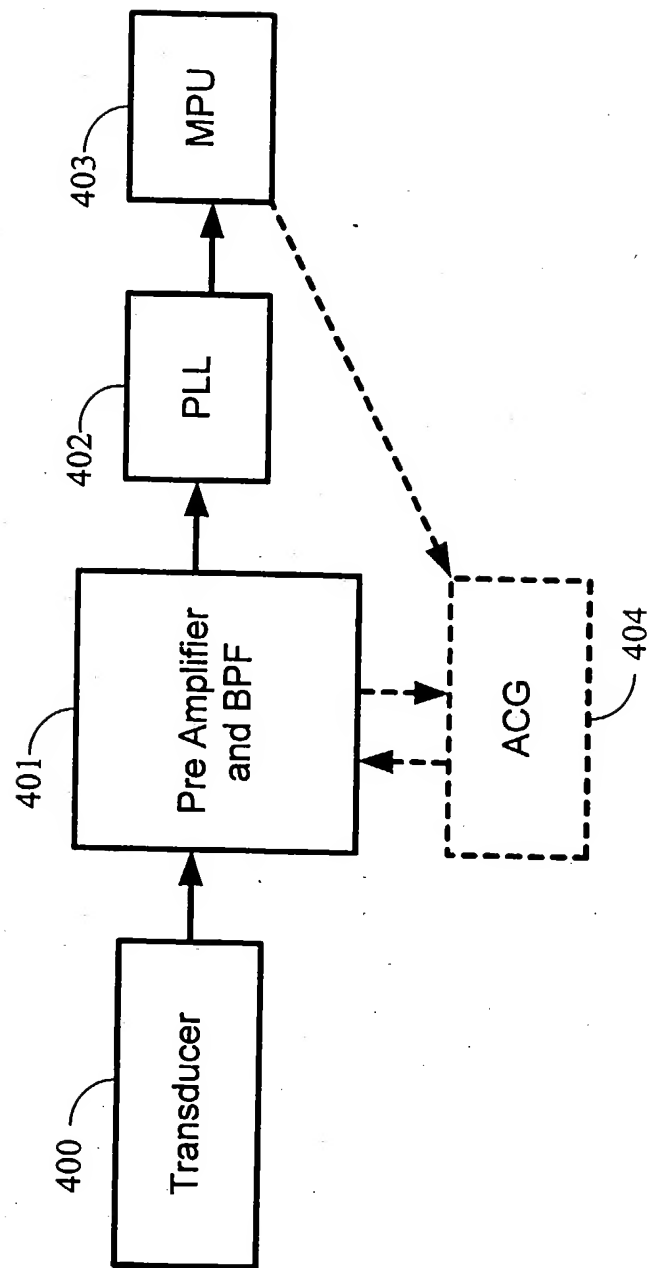


FIG. 40

Using Software PLL for Decoding

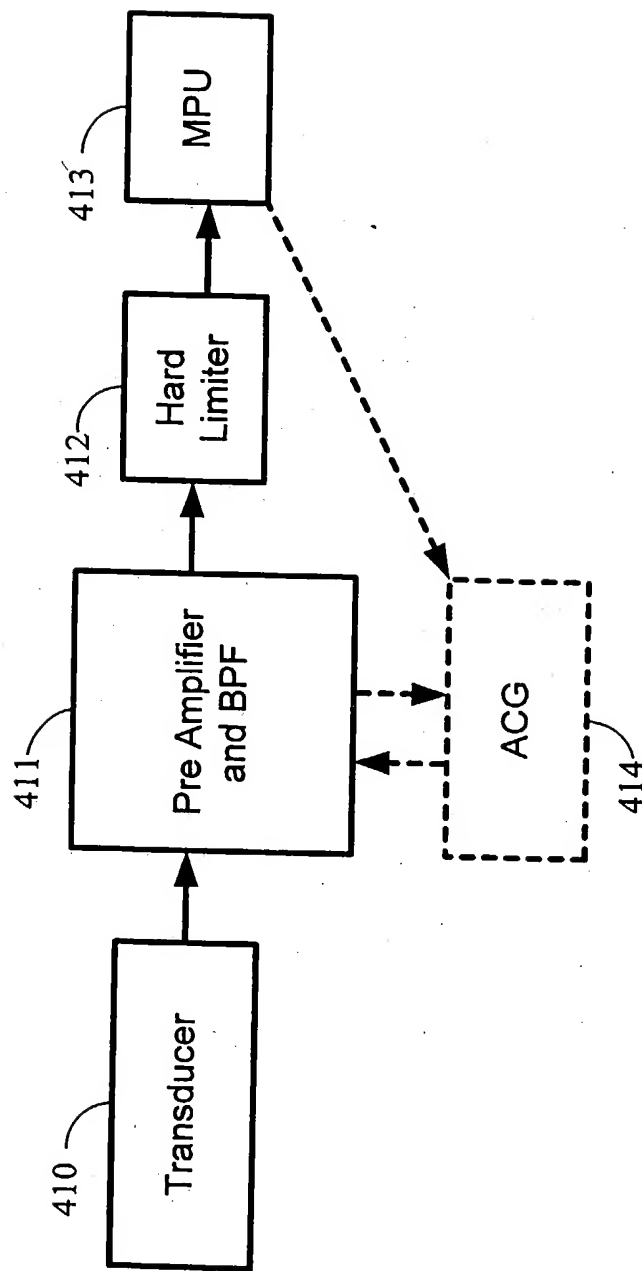


FIG 41

Using Mixer for Baseband Processing

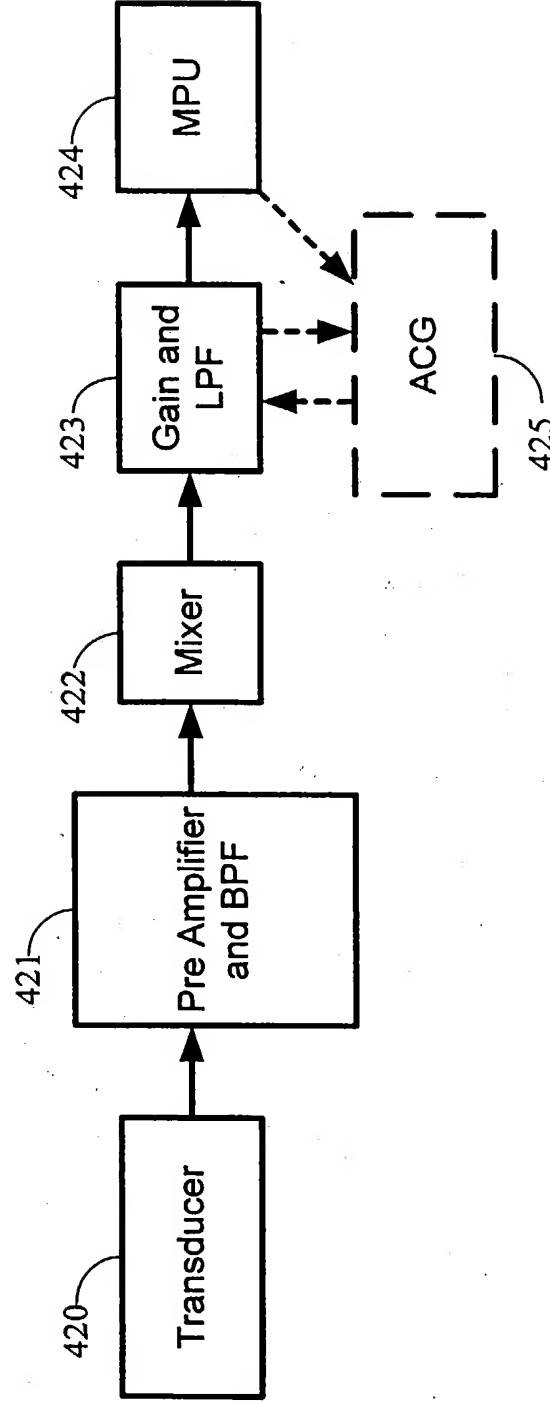


FIG. 42

CONCURRENT OPERATION OF MULTIPLE RECORDING SOFTWARE

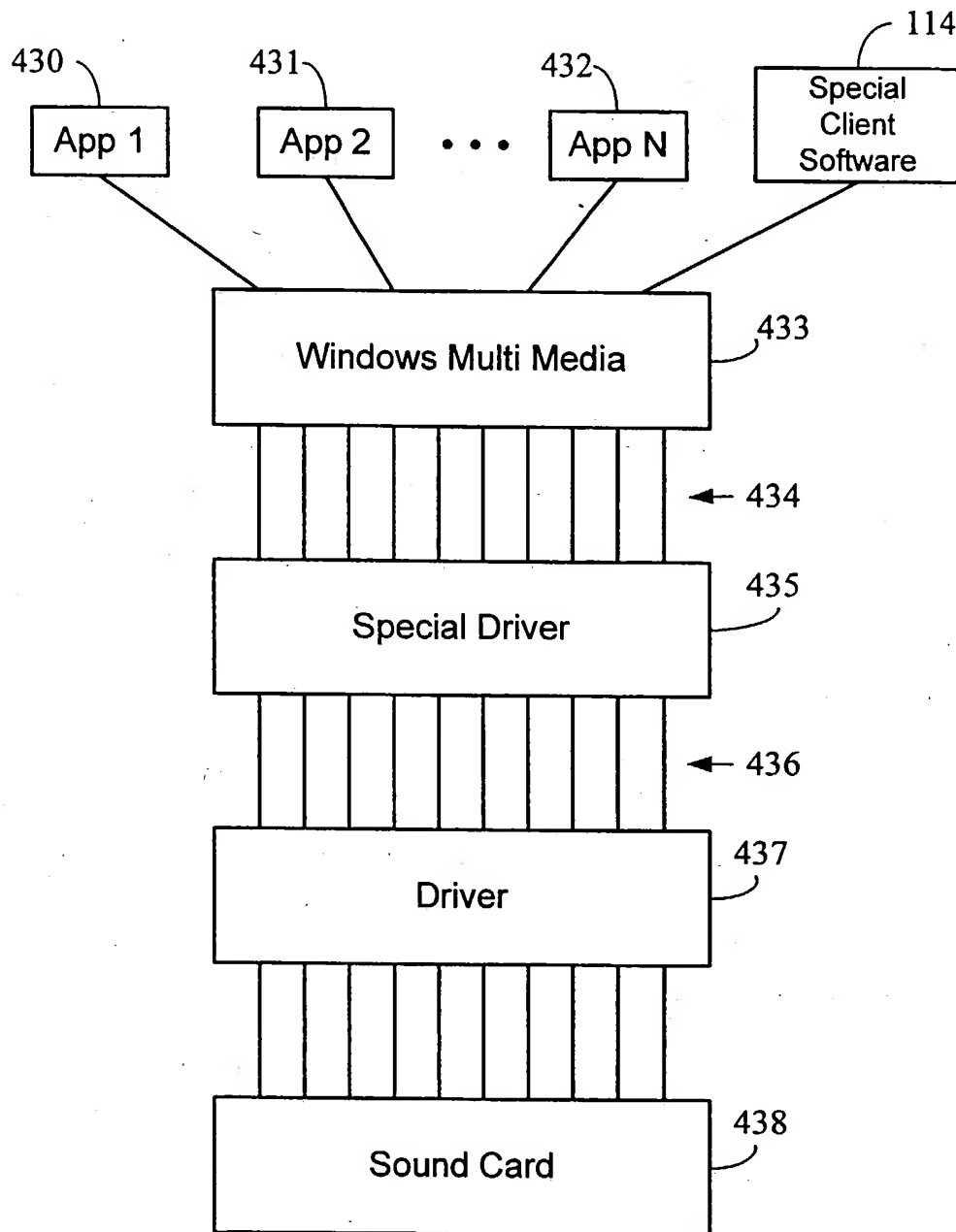


FIG 43

CONCURRENT OPERATION OF MULTIPLE RECORDING SOFTWARE

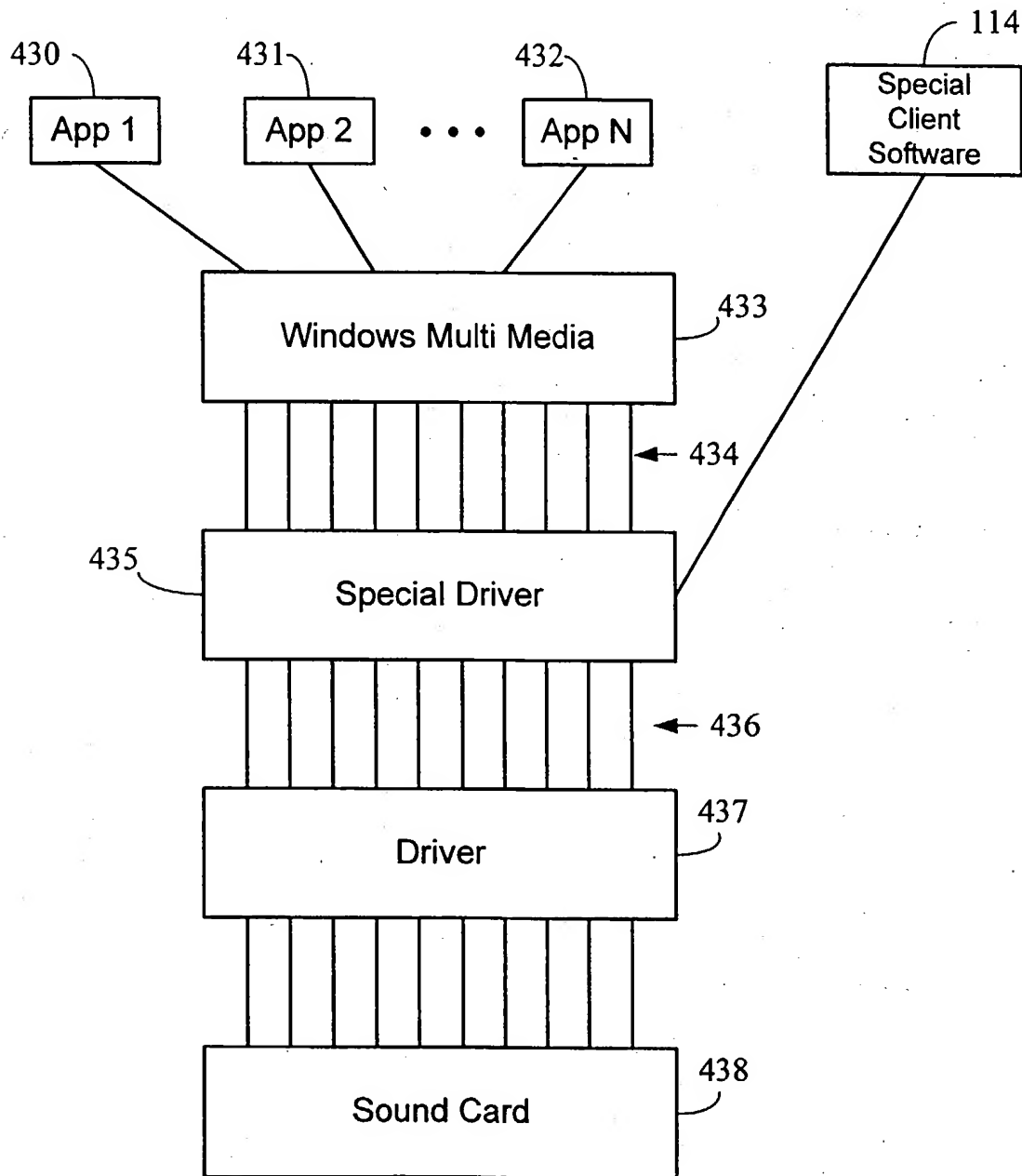


FIG. 44

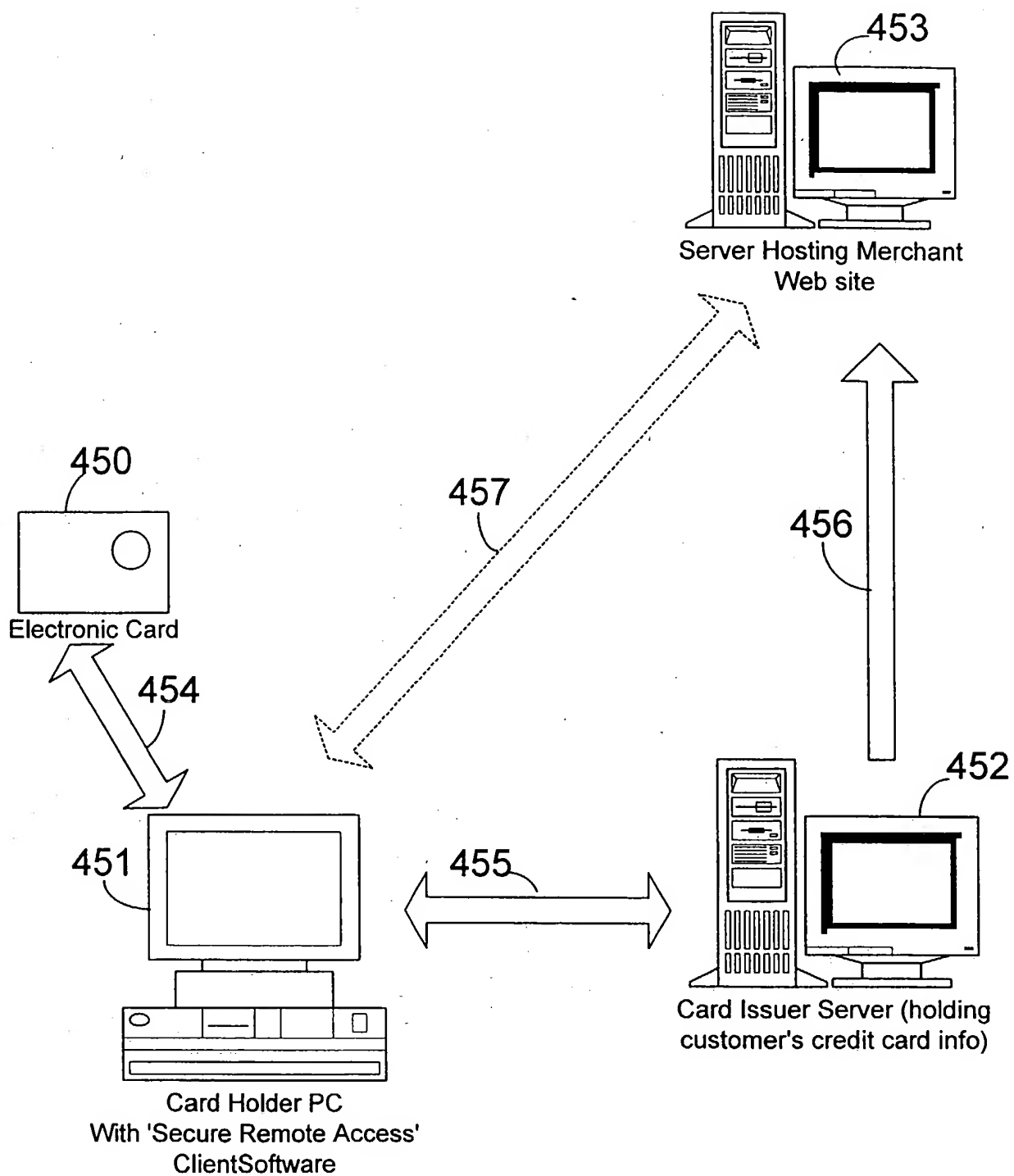


FIG. 45

APPLICATIONS

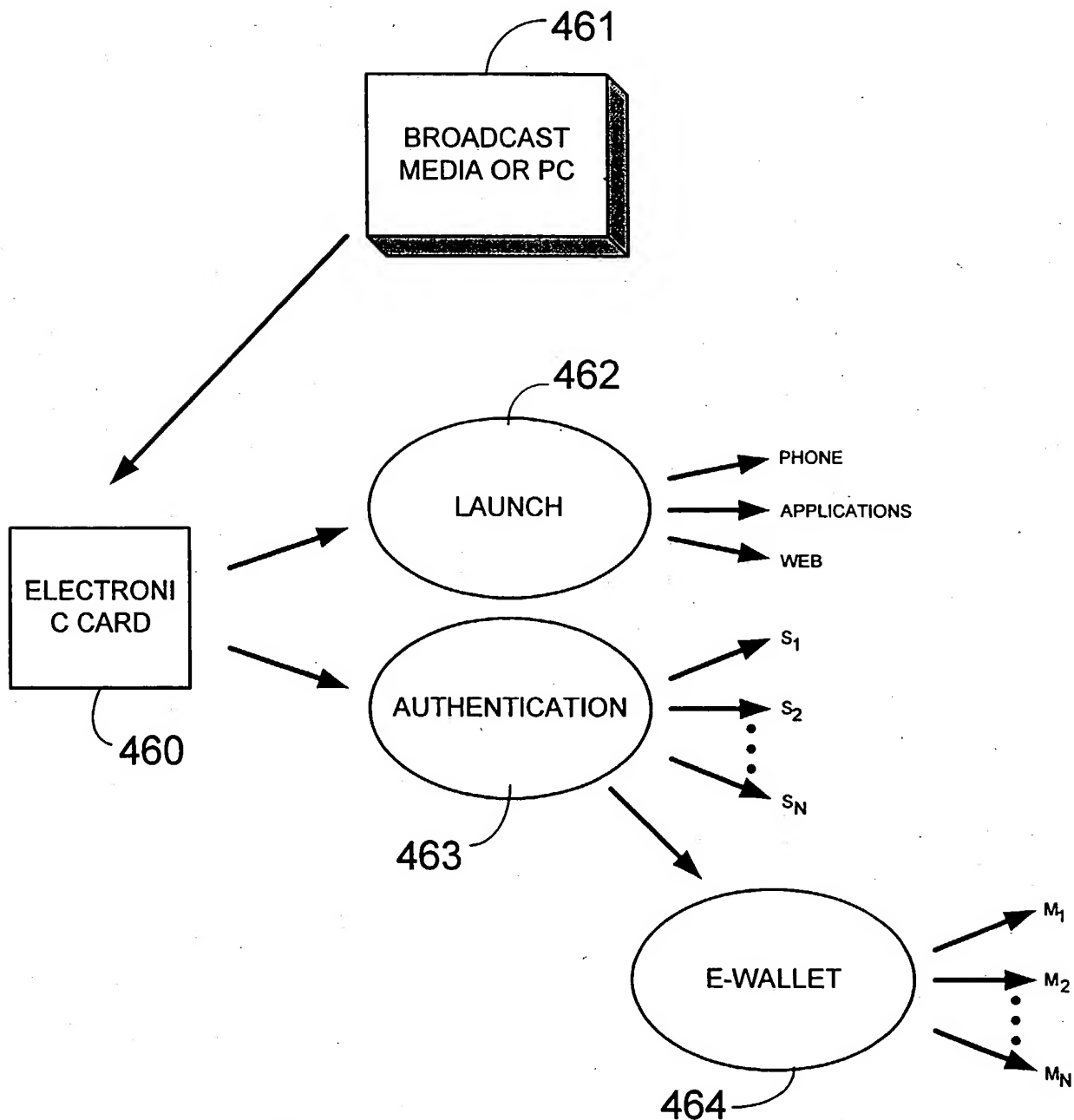


FIG. 46

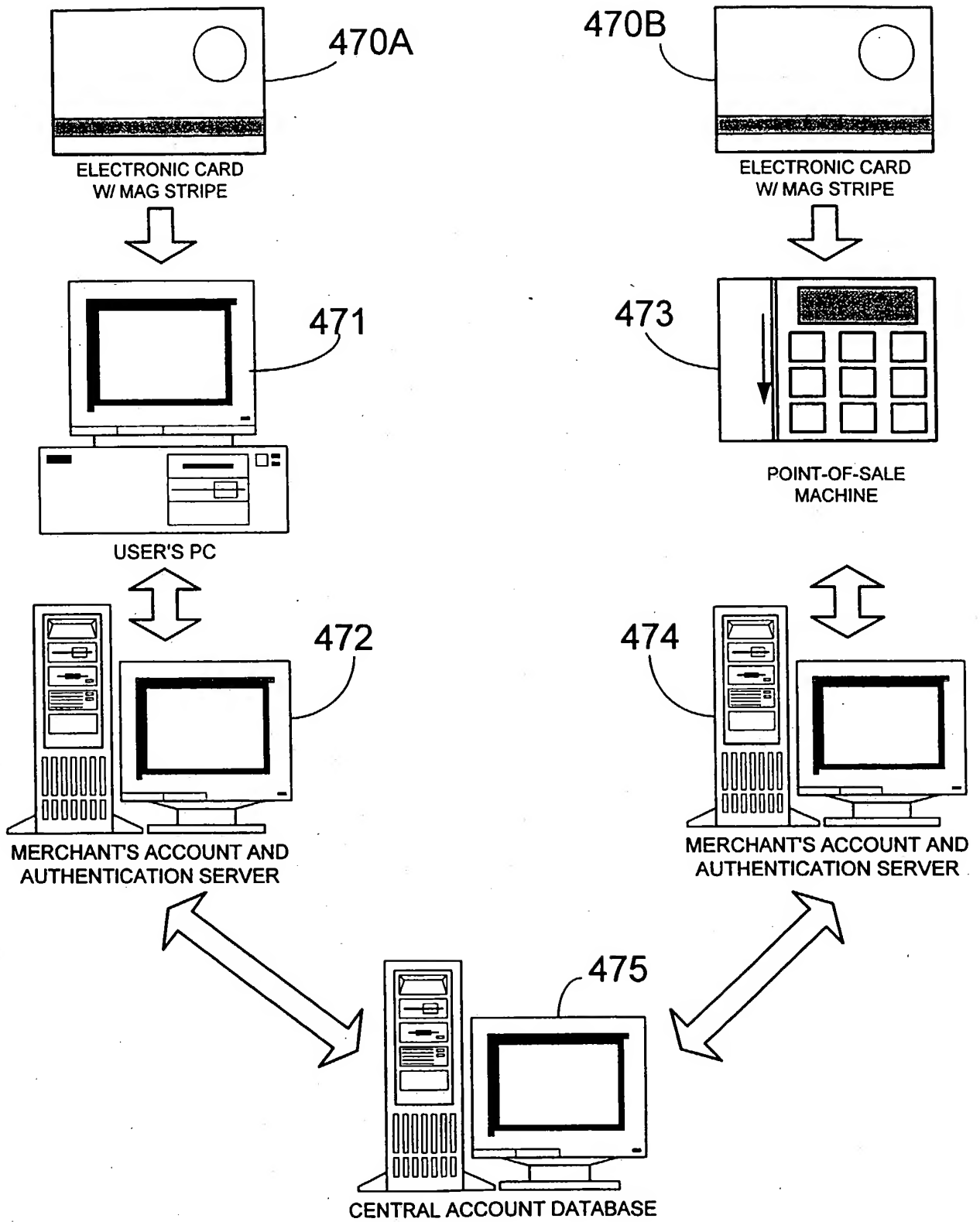


FIG 47